HYGEIA

The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

FEB., 1934

TRENCH MOUTH

25 CENTS

HEARTS IN THE BREAKING

POISON IN THE PANTRY

GIVE YOUR CHILD COD LIVER OIL THIS EASY WAY—NO FISHY, OILY TASTE

● Many children need more of the vitamins present in cod liver oil—the doctor says so... they need those benefits of cod liver oil which are so helpful in promoting health and building sound bodies. But no longer need you struggle to make them take that oily, fishy, old-fashioned cod liver oil they object to.

Now they can have their cod liver oil the easy way... White's Cod Liver Oil Concentrate Tablets ...pleasant, candy-like. They are a true concentrate of the vitamins A and D present in cod liver oil itself. And there is an added advantage—each tablet is constant in vitamin content, accurate in dosage—for it is sealed against deterioration.

White's Cod Liver Oil Concentrate Tablets are one of the oldest *stable, proven, potent, emulsifying* concentrates of cod liver oil on the market. Their efficacy and scientific soundness are attested by clinical tests in many recognized institutions. They stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association.

NRA

White's COD LIVER OIL CONCENTRATE TABLETS

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

HYGEIA, the Health Magazine, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Volume 12, Number 2. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923.

HYGEIA•

THE HEALTH MAGAZINE

Published by
the American Medical Association

Edited by Morris Fishbein, M.D.

Volume 12 Number 2

FEBRUARY, 1934

TABLE OF CONTENTS

	Page
Cover Design *Alan Hughes*	
Are Doctors Human?	104
Three February Birthdays	105
The Case of George Washington, Esq. *Walter A. Wells*	106
Hearts in the Breaking. *Herman G. Morgan*	110
Fighting Disease in Rural Kentucky	114
"They Don't Have to Die!" *Miriam Zeller Gross*	115
The Problem of the Overweight Child. *W. A. L. Styles*	118
Training for Athletics and Health. Chapters XIV and XV. *Alfred E. Parker*	121
Shall We Pasteurize? *W. W. Bauer*	124
Health Pursuits in Pictures	128
Poison in the Pantry. *Solon R. Barber*	129
Sex Education. VIII. The Young Married Couple. *Thurman B. Rice*	132
A Nursery in a French Railway Station	136
Before Baby Is Two. IV. Helping the Baby to Build Healthful Ways of Feeling. *Katherine Brownell Oettinger*	137
Washing. *Charles S. Whiting*	138
Public Health Nursing in Industry. *Violet H. Hodgson*	139
The Conquest of Typhoid. *Frederick R. Taylor*	143
Solving Rural School Sanitation Problems	144
The Fried Food Phobia. *Lulu G. Graves*	145
A Housewife Looks at the Committee on Foods. Part V. *Doris W. McCray*	148
Modern Voodooism. Part I. *John Lee Maddox*	153
Trench Mouth. *Sidney Sorrin*	157
Feminine Beautification. Part IV. *Charles Lerner*	159
I Want to Know. VI. *Oscar Reiss and Dorothy Walter Baruch*	162
New Books on Health	166
School and Health	167
Questions and Answers	172

CONTRIBUTORS TO THIS ISSUE

● Dr. Walter A. Wells, whose article "The Last Illness of Washington" appeared in Hygeia in February, 1933, presents an imaginary clinical report in which George Washington is the patient. . . . In "Hearts in the Breaking," Dr. Herman G. Morgan utters timely warnings against twentieth century speed, which is such a serious factor in cardiac disease. . . . Miriam Zeller Gross cites startling statistics concerning the appendicitis mortality rate and tells how it was radically reduced in Philadelphia.

● Dr. W. A. L. Styles gives helpful advice on meeting the vexatious problem of overweight in children. . . . Dr. W. W. Bauer, who asks and definitely answers the question, "Shall We Pasteurize?" is associate editor of Hygeia and director of the Bureau of Health and Public Instruction, American Medical Association. . . . Alfred E. Parker, physical education instructor, Berkeley (Calif.) High School, discusses training for baseball and minor sports.

● Dr. Thurman B. Rice, professor of bacteriology and public health, Indiana University School of Medicine, continues his series on sex education with an article concerning "The Young Married Couple." . . . A subject of vital importance, "Poison in the Pantry," is discussed by Solon R. Barber, who is in charge of the information service for the Federal Food and Drug Administration. . . . Katherine Brownell Oettinger, mental hygiene supervisor, Scranton Visiting Nurse Association, gives guides to mental health in infancy.

● Dr. Frederick R. Taylor, department editor, *Southern Medicine and Surgery*, describes the conquest of typhoid. . . . Violet H. Hodgson, assistant director, National Organization for Public Health Nursing, defines the place of public health nursing in industrial health work. . . . Lulu G. Graves, food consultant, exposes the fallacies underlying the fried food phobia.

● Sidney Sorrin, D.D.S., explains the symptoms and treatment of Vincent's infection, or trench mouth. . . . Capt. John Lee Maddox, a previous contributor to Hygeia, has written much about savage tribes.

● Dr. Charles Lerner concludes his series of articles on feminine beautification with a discussion of the use of cosmetics. . . . Doris W. McCray turns her attention to "Committee Acceptance of Canned Fruits."

● For the younger readers, Dr. Oscar Reiss, associate professor of pediatrics, University of Southern California Medical School, and Dorothy Walter Baruch, instructor in education, Whittier College, tell "What Would Happen if You Had No Bones." Upon its completion in Hygeia, their serial, "I Want to Know," will be published in book form by Harper & Bros.

Published monthly by the American Medical Association, 535 North Dearborn Street, Chicago. Subscription price $2.50 a year. Single copies 25 cents.
Foreign subscriptions $3.25 a year.

Copyright, 1934, by the American Medical Association. All rights reserved.

February, 1934

EDITORIAL

Are Doctors Human?

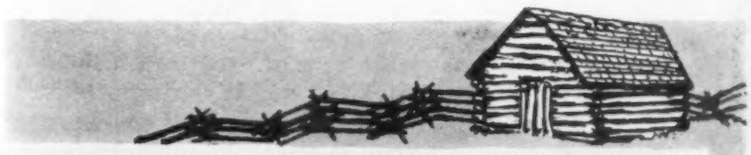
MOST PERSONS conceive of the physician as a cloistered individual wholly concerned with the ailments and sufferings of mankind and not likely to be a participant in the moving world with its multitudes of activities. This impression is, of course, far from the truth. There have been famous physicians who were of equal importance in music, in art, in letters, in engineering, in botany and in innumerable other interests of mankind. It occurred to a British physician, Thomas K. Monro, professor of medicine in the University of Glasgow, to make a record of the names of some of the distinguished physicians who were noted in letters, science and action.

AMONG the great British poets, for example, occur the names of the physicians Mark Akenside, Thomas L. Beddoes, Robert Bridges, who was recently poet laureate, the famous George Crabbe, John Keats, Oliver Goldsmith, John McCrae, who wrote "In Flanders Fields," and Ronald Ross. Ross received the Nobel prize in medicine for demonstrating mosquito transmission of malaria. Among British authors whose names are known throughout the world and who were at the same time physicians, one thinks particularly of Conan Doyle with the great character of Sherlock Holmes; Henry Morley, known as a critic; Tobias Smollett, and Sir Frederick Treves. Among more recent authors are Somerset Maugham, Francis Brett Young, A. J. Cronin and Warwick Deeping. In the United States, the literary names include Oliver Wendell Holmes, S. Weir Mitchell, William James and many other physicians.

SUCH philosophers as John Locke and Thomas Brown were equally great in medicine and in philosophy. In statesmanship one thinks of Clemenceau, Ramon y Cajal, Auckland Geddes, and in our own country two secretaries of the interior, Hubert Work and Ray Lyman Wilbur, not to mention the famous Benjamin Rush, who signed the Declaration of Independence. Explorers like David Livingstone and Mungo Park, both physicians, were known to all the world.

THUS the physician is seen to be frequently a man of broad training and cultural background who serves in every way as a citizen of the world. There have been times when the public, looking at the intense scientific absorption of the medical man, has been inclined to ask, "Are doctors human?" They need but to read the statements of those physicians who have contributed to the humanities to realize that a medical training is not inconsistent with a whole-hearted humanism.

THREE
FEBRUARY BIRTHDAYS
That Are Vitally American



H. Armstrong Roberts.

Lincoln National Life Ins. Co.

February 12: Lincoln was born 125 years ago. Paul Manship, sculptor, depicts him as a Hoosier youth of 21.

February 8: Boy Scouts of America begin their twenty-fifth year dedicated to carrying on American ideals of manhood and good citizenship.

Ewing Galloway

February 22: The nation honors its "Father." A panel on the Sub-Treasury, New York, shows "Washington Praying at Valley Forge."

Copyright by
Alexander Lodge No. 22,
A. F. & A. M., Alexandria, Va.

In 1794, Williams was commissioned to paint for the Masonic Lodge of Alexandria, Va., "as perfect a likeness as possible."

The Case of

THE world at large has always shown an abiding curiosity in the bodily ailments of the great men of history. This may be due in part to the selfish consolation which mediocre men derive from the thought that even the most exalted geniuses are not without weaknesses of the flesh; but a better reason exists, based on the consideration that the health history of an individual often furnishes important clues to his mental and moral characteristics.

Without accepting a too mechanistic view of the theory of life, there is, nevertheless, much evidence of the occasional interaction between its outer objective and inner subjective phases, and there is reason to believe that the physical traits or defects of an individual have sometimes a direct influence over his thoughts, feelings and actions.

It follows therefore that the bodily ailments of those who play major rôles in the world's events may rise to the importance of paramount factors in the world's history. Who can say to what extent the destiny of mankind may not have been influenced by the fatal indigestion of Alexander the Great, the epileptic seizures of imperial Caesar, the tropical fever which seized on Lord Clive at the summit of his career, or the cancer of the stomach which sometimes rendered Napoleon helpless in the thick of battle?

Washington suffered from many severe ailments. During Colonial days he was so oppressed by illness that he once determined to give up all hope of being able to continue to lead a military life; and more than once he was, or thought that he was, so gravely ill that he even gave up all hope of living.

A special reason for interest in the health history of Washington is the mystery which has sometimes been made of his last illness. Many of his contemporaries and many persons since his time have been at a loss to understand the sudden taking off of a man supposed to be in robust health, after only a forty-eight hour illness following a simple cold.

During his lifetime, Washington consulted many physicians, and he usually sought men of the highest ability and learning.

In 1758, when he was much worried about his health, he wrote to Blair, "I am now under a strict regime, and shall set out tomorrow for Williamsburg to receive advice of the best physicians there."

It is a remarkable fact that Washington, throughout his life, had always been in close touch with medical men. The great intimacy that existed between him and Dr. Craik is well known. Not so well known, however, is the friendship that evidently existed between him and Dr. William Rumney of Alexandria, who was his personal physician in 1768 and for a few years following during the absence of Dr. Craik. Rumney spent days and nights at Mount Vernon continuously and was Washington's frequent companion in hunting, fishing and other parties.

Another great friend in the profession was Dr. David Stuart, also of Alexandria, who married the widow of Washington's stepson, John Custis. Although he was much younger than Washington, the latter, who evidently had the highest admiration of his ability, frequently sought his opinion and advice on political matters.

When one recalls also Washington's friendship with Dr. James McHenry, whom he appointed his private secretary and later Secretary of War, and with Dr. Hugh Mercer, who became one of his generals; when one realizes that he is so often mentioned as dinner companion to such eminent men as Drs. Shippen, Rush, Morgan and Cadwalader; when one recalls, moreover, the great personal interest he took in the medical care of his army and his insistence on thorough inoculation, it becomes easy to imagine that

George Washington, Esq.:

A Clinical Sketch

Washington took advantage of the opportunity to have a scientific study made of his own case.

Indeed, with his methodical habits he would probably be one of the first to follow the plan now generally recommended by the higher medical authorities; namely, that every one should have a check-up of his health condition regularly every year.

Disregarding the anachronism, let it be supposed that Washington, shortly before his last illness, has stepped into a modern, well equipped physician's office or clinic in order that he may have a complete overhauling and report. He rings the office bell, enters and takes his place among those who are to be examined. A large clinical blank is produced, the name of George Washington, Esq., is placed at the top, and the doctors in charge begin putting down opposite each heading the information as they obtain it.

A clinical chart has two main divisions: (1) the *anamnesis*, which means the past health history of the patient, and (2) the *status praesens*, the condition as it is found at the time of the examination.

Under past history, the doctor wants to know all that it is possible to know as to the family history of the patient, his habits of life and all the illnesses through which he has passed. Much of this information has been given by Washington himself in his diaries and personal letters to his friends. Much is to be gathered from the letters of others and from the annals and memoirs of his day. Naturally, some of the headings must remain incomplete.

The Examination

Heredity.—Father died at the age of 49 of some acute respiratory disease due to cold following exposure to bad weather; mother died of cancer at the age of 82.

All his brothers and sisters as well as his half-brothers and half-sister were short lived. His half-brother Lawrence died at the age of 34 of consumption, and his nephew George Augustine died of the same disease when a young man.

Habits of Life.—All evidence is to the effect that the patient was regular and methodical in his manner of living, when this was not made impossible by the exigencies of his active career.

He always rose early and retired early. When at home in Mount Vernon, it was his habit to get up about 4:30 or 5 a. m., often making his own fire; after a little work in his library and a visit to his stables, he would have breakfast at about 7 a. m. He held steady, even with company in the house, to the practice of retiring about 9 p. m.

He ate heartily and was not overparticular about the fare, except with regard to fish, of which he was very fond. His breakfast consisted regularly of two or three small cups of tea, Indian meal cakes and honey. His chief meal of the day was dinner at 2 p. m. His later meal, or supper, was simple, consisting of little more than some bread with tea or a large glass of milk.

The patient was always accustomed to vigorous outdoor exercise, except during the latter part of his life when he was prevented, much to his regret, by the exactions of his administrative office.

He was an inveterate horseback rider. He rode on an average of at least 15 miles every day. When at his home in Mount Vernon, it was his habit immediately after breakfast to mount his horse and visit his various plantations to oversee the work. Sometimes he took an actual hand in the work. During the fox hunting season he would spend nearly the whole day in the saddle, for from three to five days of the week.

In connection with his work as a surveyor, but later more especially as an explorer and Indian fighter, he suffered all the hardships of a rough camping life. He was exposed at times to excessive cold, often sleeping on cold, damp ground and having poor and improper food.

During the eight strenuous years of the Revolutionary War there was a continuation of a rough outdoor life with horseback exercise but, of course, without regularity or routine, and often attended with much care, excitement and anxiety.

An abrupt change of his manner of living and habits of life was a necessary sequence of his assuming the presidency. The great application to business and want of exercise entailed by his arduous duties at this time was, according to Sparks, the cause of much of his ill health. Washington himself was conscious of the unfavorable change and once seriously thought of taking a farm near by, where he could have some much needed exercise and diversion.

Amusements.—It is to be accounted as fortunate that Mr. Washington had a well developed relish for sport and play, and a disposition for jovial companionship. He was, above all, an ardent and enthusiastic fox hunter but indulged also in all the sports of the day, such as deer and bear hunting, fishing, duck shooting, horse racing and cock fighting.

In his early days he played cards often for high stakes; he was a devotee of the theater and never missed a chance to attend a ball.

A check-up has been made from his diary, which shows that in six years from 1768 to 1774 he went fox hunting 155 times, attended race meets 61 times, the theater 37 times, went gunning 21 times and attended 29 balls.

Stimulants.—I have referred to his apparent fondness for tea, which he took for breakfast and often for supper. He never used tobacco in any form. His account book shows, however, that he frequently ordered snuff, probably for the use of his guests.

As to alcoholic drinks, the evidence is that he drank freely, as did every Virginia gentleman of the day, but seldom, if ever, to excess. It was his habit to have two or three good glasses of madeira regularly with his dinner, and if guests were present, enough more to drink an after dinner toast to each.

On the occasion of state dinners it was the custom after the meal for many toasts to be proposed to various persons and sentiments, which each guest would honor by emptying his glass. In New York once at

By WALTER A. WELLS

a dinner in celebration of the French allies, no less than thirty-one toasts were drunk. Good old General Putnam had to be taken to his quarters, but Washington is said to have stood his ground manfully. In fact, it has been remarked that he had a splendid tolerance for strong drink; in other words, he carried his liquor well.

In early pioneer days his love of conviviality led him frequently, after a hard day's surveying or hunting, to resort to one of the hospitable taverns of his community.

Once after ordering his bowl of rum at the Indian Queen Tavern, Fredericksburg, he discovered he had no money. He tendered a coonskin as payment and then, surprised at the change he received, he ordered drinks for all the company present.

On the occasion of election, each candidate usually brought forth a hogshead of rum for the benefit of the electors, and Washington always did his part.

From his diary one may read through the lines his evident satisfaction when on certain occasions after a hard day's work he was served a liberal drink of rum, "a bowl or two of punch" or a "good glass of Rhenish."

He ordered wine in large quantities at considerable expense; sometimes a pipe which held about 110 gallons and cost about $100; sometimes a butt which held even more and cost about $150. This was necessary because Washington was a generous host, and Mount Vernon was almost never without guests.

Past Illnesses.—The patient, from all accounts, suffered many minor ailments and some serious illnesses. This report will take them up in chronological order.

The first record of any illness was entered in his diary at the age of 19 when, on a voyage to Barbados as companion to his invalid brother Lawrence, he became quite seasick as a result of the high seas and heavy rolling of the vessel. Whether or not he would have gotten over this tendency if he had succeeded in his early ambition of entering the Navy cannot be known. This was the only long ocean voyage he ever took; in fact, it was the only time in his life he ever left America.

Shortly after landing, he had an attack of smallpox. He was laid up about three weeks, being, as he says, "strongly affected" with the disease. The smallpox marks remained for life, although they show little or not at all in the many portraits made of him.

The next illness recorded was when he went on the ill-starred Braddock expedition against the French. He was so ill that he could not proceed on horseback but had to travel stretched out in a covered wagon. There was fever, accompanied by intense headache. There is no record of the exact nature of the ailment except that, judging by the remedy which was given and which proved successful, it was apparently associated with the upper air tract.

In 1757 and 1758 disabling illnesses interfered with his military duties of protecting the Virginia frontiers. He was obliged to be absent so much that Governor Dinwiddie had to scold him, thinking perhaps he was neglecting his duties for pleasure parties of some kind. But Washington, suffering a severe form of dysentery complicated with pleuritis, was under the care of Dr. Craik. On November 7 his friend Colonel Stewart wrote to Governor Dinwiddie: "For upwards of three months past, Colonel Washington has labored under a bloody flux. About four weeks ago his disorder greatly increased, attended with fevers. The day before yesterday, he was seized with stitches and violent pleuritic pains, upon which the Doctor bled him; and yesterday, he twice repeated the same operation. This complication of disorders greatly perplexes the Doctor, as what is good for him in one respect hurts him in another.

"The Doctor has strongly recommended his immediately changing his air and going some place where he can be kept quiet (a thing impossible here) being the best chance that now remains for his recovery. The Colonel objected to following this advice before he could procure your Honour's liberty, but the Doctor gave him such reasons as convinced him that it might then be too late, and he has at length, with reluctance, agreed to it. Therefore, he has directed me to acquaint your Honour as he is not in a condition to write, himself, of his resolution to leave immediately."

After returning to Mount Vernon the patient continued for some time a victim to the same distressing malady. He was treated by Dr. Charles Green, who was rector of Truro Parish and at the same time a practicing physician.

In the early part of 1758 he began to suffer more especially with pulmonary symptoms, which became so pronounced that he became convinced that he had contracted tubercular disease like his brother Lawrence. He wrote: "I have never been able to return to my command, my disorder at times returning obstinately upon me, in spite of the efforts of all the sons of Aescalapius, whom I have hitherto consulted. At certain periods I have been reduced to such extremes, I have too much reason to apprehend an approaching decay, being visited with several symptoms of such a disease."

In 1761 he was again a great sufferer, but this time on account of malaria. Those living along the banks of the Potomac in those days could hardly escape, ignorant as they then were of the cause and the means of protection.

"The tidal marshes," as some writer has remarked, "breed a variety of mosquitoes capable of biting through armor-plate, and of infecting the devil, himself, with malaria. A large part of the population, both white and black, suffered every August from chills and fevers."

It was in the hope of shaking off this dread disease that Washington decided to make a visit to the Warm Springs, now known as the Berkeley. Soon after he arrived there, he wrote back to Dr. Green to give him an account of his experience:

"We found of both sexes about two-hundred people, full of all manner of diseases and complaints, some of which are much benefitted, while others find no relief from the water.

"Two or three doctors are here, but whether attending as physicians or to drink the water, I know not. In regard to myself, I beg leave to say that I was much overcome with the fatigue of the ride and the weather together. However, I think my fevers are abated, although my pains grow rather worse and my sleep equally disturbed.

"What effect the waters will have upon me, I cannot say at present, but I expect nothing from the air; this certainly must be unwholesome."

It is evident from the account books that he consulted several other physicians that year and expended large sums of money in his effort to recover his health.

In March he paid Dr. Craik £8.11.10; in August he paid Dr. Hamilton for advice and prescriptions £4.6; in October Dr. Hamilton again for three visits, £2.16; in November Dr. Hay for visits and attendance, £15; and the same month, Dr. Small for medical service, £20, amounting in all to something over $250, a considerable amount for that day.

After writing the foregoing letter to Dr. Green, Washington had a relapse which was so serious that he became extremely pessimistic and despaired of recovery.

"The indisposition," he wrote, "increased upon me, and I fell into a very low and dangerous state. I once thought the grim King would certainly master my utmost efforts, and that I must sink in spite of a noble struggle; but, thank God, I have gotten better of the disorder, and shall be restored, I hope, to perfect health again."

He was well for a while, but in 1768 and 1769 he was again visited with severe attacks of both of his old troubles, malaria and dysentery, which interfered seriously with his hunting trips as well as with his agricultural duties. He was attended by Dr. Rumney. There are entries, indicating how he had been kept home on account of "lax griping and violent strains," or "went a-hunting, returned home with an ague upon me."

During the active, absorbing days of the Revolution, either he was very little sick or else he made no mention of it. Once, however, while in camp at Morristown he had an attack of what is supposed to have been quinsy. A contemporary chronicler wrote: "We are all under great concern for poor Washington. Last night he was cupped in the head, and is something better today." His illness for a while was so severe that he anticipated a fatal outcome and made plans to have General Greene succeed him as Commander-in-Chief of the Army.

Once at Valley Forge, toward the end of the season, he had some sort of an indisposition, and a celebration going on outside of headquarters had to be called off for fear of disturbing the patient.

In 1786 he suffered again considerably from severe paroxysms of malaria. He was treated by Dr. Craik, who prescribed at this time with good result large doses of Jesuits' bark, which had been recently introduced for the complaint. This Jesuits', or peruvian, bark owed its efficacy to the cinchona, now used extensively as the source of quinine.

In 1787 he suffered considerably from rheumatism, which at this time, he said in writing to a friend, had been so bad for the past six months that it was only with difficulty that he could raise his hand above his head or turn himself in bed. When he was elected a delegate to the constitutional convention to meet in Philadelphia, he mentioned this rheumatic trouble as a reason for declining.

Shortly after assuming the presidency, Washington was stricken down with an attack of what was then called anthrax, but which is now recognized to have been carbuncle. It was located on his hip and had to be lanced.

The patient was invalided for some weeks; and finally, when he was able to go out, he had to have his coach especially altered so that he could lie down in a semirecumbent position. He was under the care of Dr. Samuel Bard, who was considered New York's most eminent physician.

On September 9 he wrote to Dr. Craik: "My disorder was of long and painful continuance, and though now freed from pain, the wound given by the incision is not yet closed.

"Persuaded as I am, that the case has been treated with skill and with as much tenderness as the nature of the complaint would admit, yet, I confess I often wished for your inspection of it. During the paroxysms, the distance rendered this impracticable, and after the paroxysms, I had no conception of being confined to a lying posture on one side six weeks, and that I should feel the remains of it more than twelve.

"The part affected is now reduced to the size of a barley corn, and by Saturday next, which will complete a thirteenth week, I expect it will be skinned over; upon which, I have more reason to be thankful than to repine at the confinement."

In October of the same year, Washington felt called on to make a visit to Boston. On account of long delay on the outside of the city and exposure to raw cold weather, he developed a severe head cold. An epidemic of colds which broke out in Boston immediately afterward was generally spoken of as the Washington influenza.

In the spring of the year following, he was again seriously ill. On May 9 he caught a cold, which this time settled in his chest; and symptoms developed

This set of Teeth
was worn by
Gen. George Washington
and made by
Dr Greenwood of New York City.
At present the property of the
Baltimore College of Dental Surgery.
Baltimore, Md.

P. & A. Photos

pointing either to pneumonia or to pleurisy, or possibly to both. The country was for a while alarmed for fear of a fatal outcome. Maclay, then a senator, wrote, "Every eye is full of tears; his life despaired of. Dr. McKnight told me he would neither trifle with his own character nor the public expectation; his danger was imminent and every reason to expect that the event of his disorder would be unfortunate."

A short time after the attack, Washington wrote to his young friend Dr. David Stuart, "I still feel the remains of a violent affection of my lungs; the cough, pain in my breast and shortness of breathing not entirely having left me."

On June third, he wrote to Lafayette: "I have a few days since had a severe attack, the peripneumony kind, but am now recovered except in point of strength. My physicians advise to more exercise, and less application to business. I cannot, however, avoid persuading myself that it is essential to accomplish whatever I have, though reluctantly undertaken to the best of my abilities. But it is thought Congress will have a recess this summer, in which case, I propose going for a while to Mt. Vernon."

He did not, however, go immediately to Mount Vernon. He was persuaded that a sea voyage would probably be beneficial to his health. This fitted in well with his intention of making a visit to Rhode Island, which had just come into the Union. On August 15, therefore, he set out for Newport, accompanied by his Secretary of State, Mr. Jefferson.

It was a great relief to the President when finally the day came when he could become again a private citizen and return to his beloved Mount Vernon. He had many times expressed to Lafayette and other intimate friends how much he longed to get away from the busy scenes of public life and to solace himself with the tranquil enjoyment of living under the shadows of his own vines and fig trees.

On March, 1797, he wrote to General Knox, "The remainder of my life (which in the course of nature cannot be long) will be occupied in rural amusements."

His retirement, however, was not one of unalloyed content. Visitors swarmed to Mt. Vernon, and his table was seldom a day without guests. Moreover, he was not free from ills of the flesh. His teeth, as already mentioned, gave him much annoyance. Besides, he was again visited by his old enemy, the malarial fever.

He wrote to a friend in 1798, "Debilitated health, occasioned by a fever, which deprived me of twenty pounds of weight which I had when you and I were at Troy Mills Scales, has rendered writing irksome."

The last illness of which there is a record occurred in the late summer of 1798. He wrote in his diary, under date of August 20, *(Continued on page 176)*

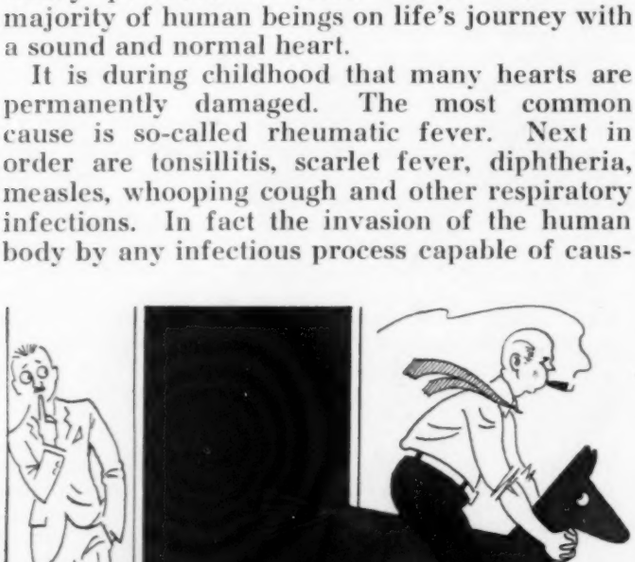
Hearts in the Breaking

By *Herman G. Morgan*

HEART DISEASE throughout the United States is a serious, interesting problem. Each year for the past two decades cardiac disease has occupied first place as the principal cause of death. It therefore has elicited the thought and study of physicians, health officers, societies for the prevention of cardiac disease, and life insurance companies, as well as the careful attention of the public. Apparently the numerous causative factors of heart disease are responsible for the slow progress which is being made in prevention.

There are so many disease processes which may occur in the human body to affect the heart either directly or indirectly that the study and diagnosis of each cardiac case may be said to constitute an individual medical problem. There are, however, certain common causes of heart disease which may be discussed without a great degree of technicality; in these cases effective prevention may be expected. Malformations or abnormalities present in the human heart at birth are comparatively rare. The important physiologic rôle which the heart is to play in the life cycle of the person is quite wisely provided for since nature starts the majority of human beings on life's journey with a sound and normal heart.

It is during childhood that many hearts are permanently damaged. The most common cause is so-called rheumatic fever. Next in order are tonsillitis, scarlet fever, diphtheria, measles, whooping cough and other respiratory infections. In fact the invasion of the human body by any infectious process capable of causing an elevation of the temperature or inducing a systemic reaction may permanently injure the heart's structures. To keep detrimental effects on the heart reduced to a minimum the following preventive measures should always be kept in mind. First, the patient should rest in bed and be treated by a doctor who recognizes the danger which may result from infections. Parents should be cognizant of the fact that during an acute infectious invasion the heart is called on to carry an increased load and that permanent damage may easily result from failure to conserve the heart properly. Under no consideration should a child who has been unfortunate enough to contract any of the numerous childhood diseases be permitted out of bed until the temperature is normal for from twenty-four to forty-eight hours. If the case has been severe, with prolonged fever, days or even weeks should elapse before exercise is permitted. Of course if the advice of the attending physician is heeded, rest in bed will be rigidly enforced. It is not unusual to find permanent heart damage in children who have had repeated attacks of tonsillitis or even rheumatic fever but have not had any medical supervision.



Unfortunate is the man who in advanced years finds himself without a hobby.

Hearts pathologically changed as the result of being overtaxed by childhood diseases furnish the potential candidates for death from heart disease long before the allotted three score years and ten. If heart disease has developed during childhood, it is important that it is diagnosed and recognized, not with the thought in mind of continually reminding the handicapped child of his affliction, but for the purpose of conserving heart reserve through the adoption of a properly supervised health program. Strange as it may seem, one occasionally finds that youths with advanced heart disease engage in basketball, football, track and other strenuous sports.

The compensatory reaction present in youth may prevent an immediate fatality, but the toll will generally be collected in early adult life. In short, vigorous emphasis should be placed on the preventive program of heart disease during youth, for from this group cardiac disease fattens its casualty list.

One seldom glances through the daily press without noticing an account of the sudden death of some prominent citizen as a result of heart disease. There is a marked similarity in the history of the illness in all these cases. Quite generally the deceased may apparently have been feeling well or may have been indisposed

on account of an attack of acute indigestion a few days prior to death.

One is impressed frequently with the number of such fatalities that occur in middle life and with the increasing number of victims in the younger age groups. What changes have occurred in a heart which stops so suddenly? What are some of the causes for the changes? Are there any warning signs or symptoms which indicate a failure of the heart to perform its function? What hygienic factors are involved in the prevention of such types of heart disease? To start the discussion let it be said that some marked changes have occurred in the heart that suddenly ceases to perform its function. The changes may have developed rather insidiously, and frequently they have developed without any symptoms which would lead the unfortunate patient to suspect heart disease.

The heart differs little in its physiologic needs from any other organ in the body. Primarily it must have a blood supply, and secondarily it must be provided with a nerve supply, which in the instance of the heart is a most intricate, delicate and efficient arrangement. It is quite logical that any interference with the blood supply of an organ as important as the heart must be accompanied sooner or later by detrimental results. In direct ratio to the supply of blood available will be the heart's performance and function in the group of cases under discussion.

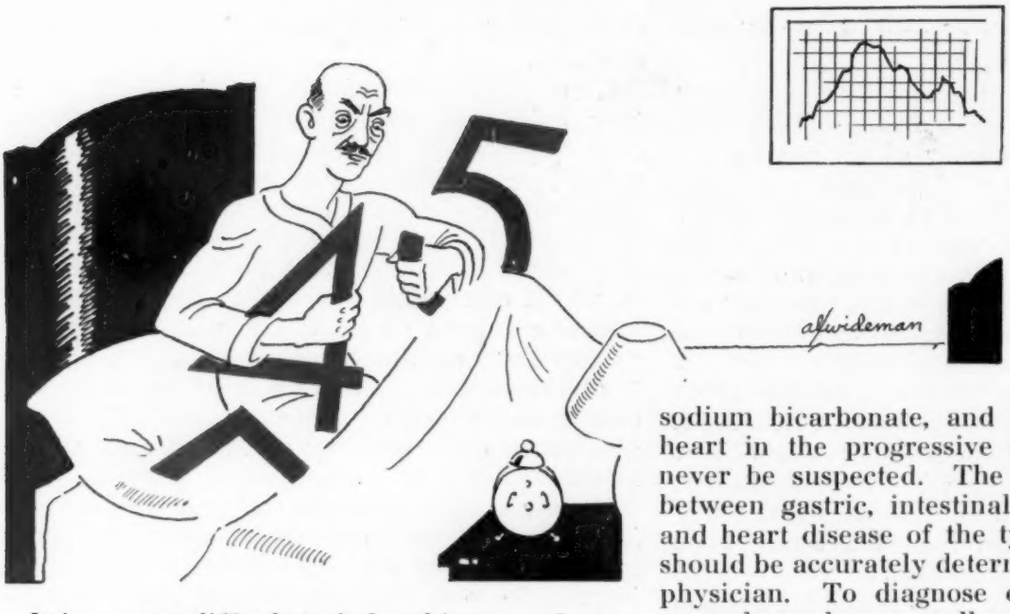
The old adage, "A man is as old as his arteries," is most surely true when it applies to the arteries supplying blood to the heart. The coronary arteries that supply the heart with blood have a tendency to age faster nowadays than they did a generation ago. Medical science recognizes a condition known as coronary sclerosis, a hardening or aging of the arteries that supply the heart with blood. As previously stated, the process may be insidious and slow, and may occur either in the main coronary arteries or in their branches. A small capillary may be entirely obliterated in the aging process, and yet the heart may continue to function within reasonable limitations. Some vague symptoms may be noticed which would indicate a heart disturbance; such symptoms may be referred entirely to some organic structure other than the heart.

Often the pain is referred to the stomach, and the patient, who is in reality suffering from hardening of the cardiac arteries, thinks he has indigestion or stomach trouble. Of course, if the sclerosis, the hardening or aging process, suddenly blocks a main coronary artery or a larger branch, another fatality occurs, and the death certificate awaits tabulation. Occasionally on such a certificate the cause of death is given as acute indigestion, a diagnosis which may be quite in keeping with the symptoms present but does not describe the existing pathologic changes that were in reality the immediate cause of death.

Coronary sclerosis is truly a twentieth century malady; at least it remained for twentieth century physicians to recognize and describe the pathologic conditions present, along with the symptomatic picture. Several years ago I heard an eminent physician remark that there was little cause to worry about the kind of disease to which one would succumb. He stated that any one interested in this morbid fact need merely look up his ancestral history in order to ascertain the truth. A study of heart disease during the present generation would, I fear, give proof of the fallacy of the doctor's statement.

Fatalities from coronary sclerosis are in many instances entirely out of relationship with ancestral history and family longevity. It is impossible to give much thought and study to this type of heart disease without being impressed with certain characteristics and habits of the persons who are the most susceptible. Quite frequently their health history is good up to a certain age. They are usually energetic, ambitious and quite generally successful in business. They enjoy food in abundance; they smoke incessantly, exercise little and use alcoholic beverages freely. Quite naturally there are exceptions to these characteristics and habits; in a general way, however, they uniformly tell the personal and hygienic history of persons who are apparently the most susceptible to coronary disease.

The stomach is frequently made to take the blame for something that the heart has done.



The art of leaving business problems at the office instead of taking them home as bed companions will improve the physical condition of many active and potential cardiac victims.

It is a most difficult task for this type of person to realize, or rather to admit, that any physical defect has developed which may interfere with his daily program, whether it is business or pleasure. Often he waves aside medical advice and prefers to make his own diagnosis, especially when treatment of his case consists of adopting a course quite the reverse from his daily routine.

Perhaps, in general, all those whose habits conform rather closely to the aforementioned characteristics may be considered potential candidates for sclerotic heart disease after 40 years of age. If the pace has been rather swift and strenuous, it will include a few persons who are in the late thirties. Persons living in a country where good food is plentiful, even in times of depression, have a tendency to consume more food than is necessary and proper for their sustenance level. Overeating in its relation to heart disease after middle life is quite as detrimental as infection, alcohol, overwork, mental fatigue or any other cause.

Frequently the rather indirect symptoms of fermentation and gaseous distention coming on with regularity after meals in persons past middle life should be viewed with suspicion, even if the condition is relieved by sodium bicarbonate. It may be caused by a disturbance of the gastric juices, the liver or the intestinal tract, but this should be determined by a physician when early symptoms present themselves. With a surprising degree of frequency the heart is registering a reflex protest against an overloaded stomach to which it must force a blood supply to carry on the digestive process. Numerous are the victims of incipient coronary sclerosis who have consumed pounds of sodium bicarbonate for indigestion when the treatment needed was a lightening of the load on an overworked heart.

Another misleading phenomenon is that the gastric distress is quite generally relieved by sodium bicarbonate, and thus the rôle of the heart in the progressive cardiac picture may never be suspected. The line of demarcation between gastric, intestinal and liver disorders and heart disease of the type under discussion should be accurately determined by a competent physician. To diagnose one's own case may prove hazardous as well as detrimental to physical fitness.

Frequently a complete physical examination offers little conclusive evidence of the existence of a damaged heart. The pulse rate may be regular, the blood pressure may be normal, and the electrocardiographic tracings may not show anything unusual. Only a vague and partially obscured group of symptoms may be present on which to make a suspected diagnosis of heart disease. It is with this type of heart disease that middle aged persons occasionally pass successfully a life insurance examination. Many persons apparently have the idea that the ability to pass a physical examination for life insurance clearly indicates the absence of pathologic changes in the heart, and they present it as prima facie evidence of their perfect state of physical fitness. In some instances the one seeking insurance does so on account of the presence of slightly aggravating symptoms which he does not understand, along with the premonition of an impending break in health. If the examination is passed and the insurance issued, the symptoms are often considered imaginary and of no great consequence. Almost every insurance company has sooner or later paid the face value of a policy issued to such a client.

That advancing years are always accompanied by a decrease in the resilience, tone and reserve of the heart muscle is not admitted or known by many persons. Of course, one should not think continuously of cardiac function, but there should be a full realization of what constitutes a proper hygienic cardiac program in keeping with advancing years. Living a sedentary life and simultaneously expecting a heart muscle to be quite unlike other muscular tissues of the body is inconsistent. Flabby musculature of the extremities is quite likely to be accompanied by a heart muscle with a similar tone.

One would be considered foolish to attempt to engage in a mile foot race or to pitch nine

innings of baseball during middle life, especially after being out of training for years; yet how often one sees plethoric, overweight men and women attempting to keep up in the mad race of civilization. A few give an interesting demonstration of perseverance and are a living proof that the heart is able to stand many insults before it gives way. The majority of flabby cardiac victims, however, are surprisingly soon gathered to their forefathers. They may be catalogued in the group of those who have lead a short life but a fast and busy one.

Other patients with this type of cardiac disease rust out instead of wearing out. Occasionally one of the sedentary group will decide that it is time to give some thought to his physical welfare. Often the plan adopted is along the line of regular strenuous exercise. The ultimate result expected is rapid loss of weight, a youthful figure and hard muscles. Frequently a special diet is followed which may have been published in pamphlet or book form, or received from another enthusiast in health training. The author of the book may have qualified as an expert because he had raised ginseng, successfully fed ferrets or previously engaged in any occupation or profession from starting a nudist colony to conducting research work on the coddling moth. Of course, it matters little, because the only thing at stake is the victim's health.

The more ultrascientific the course adopted, the quicker perhaps the routine will be dropped. More benefit may be said to be derived from giving up the plan than from following it. When the health seeker is persistent, detrimental results quite often occur. Exercise is essential throughout life, but with advancing years it must be graduated and used as a health measure with discretion. Moderation in exercise is quite as essential as temperance in eating or drinking. What may be a sufficient amount of exercise for one person would be entirely inadequate for another of the same age. The amount depends on one's previous habits and the tone of the heart muscle. One thing is certain, living a sedentary life for a period of years will not be followed by youthful muscular tone through adopting a program of vigorous exercise. In fact, strenuous muscular exertion after middle life is seldom in keeping with good hygienic judgment, although we may expect to have ever with us those youthful minded, presenile and senile persons who at 40, 50 or even 60 years of age have never noticed the slightest retardation in any of their physiologic functions.

They claim to be able to perform every kind of athletic feat from a mile run on the track to acrobatic stunts on the rings or horizontal bars; they play from 18 to 20 holes of golf, an hour at handball or squash, or even several sets of tennis. To these "boys and girls" it is all in the day's play. Yes, indeed, it is being done by quite a few. Nearly every one is acquainted with some one who might qualify for membership in the group. Quite generally, however, if these optimists are watched they will be found to slow up rather suddenly and remain contented in merely discussing their bygone athletic ability.

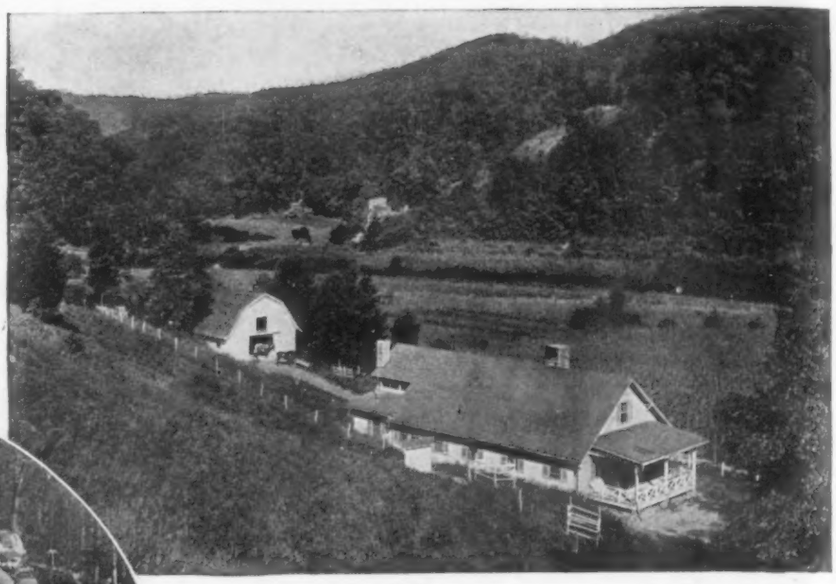
Occasionally one of them who has persisted far beyond human endurance and who has been the subject of news in the sports column furnishes a last story by being found dead in bed. The form of exercise chosen after middle life should never be too strenuous. It is far more essential that it is regular, regardless of the choice, whether it is walking, golf or a physical training class. The mistake, in my opinion, is frequently made in attempting to improve one's physical fitness after working hours; for example, by taking a turn at any form of exercise near the close of the day. This is true, especially, with those who earn their livelihood through the dispensation of mental energy.

Giving the muscles of the body a play may be followed by an apparent feeling of invigoration and improvement in physical condition. Yet how often one sees a large group of tired business men in a gymnasium class being put through the same paces regardless of age, effect of fatigue, or heart muscle reserve. It is exercise, and because of that fact, it is expected to benefit any one who takes it. After class the recipient rushes home in order to be on time for dinner. The food served him may be especially to his liking or perhaps just mediocre. Whichever the case may be, he has, through his exercise, created an appetite for food, and he forthwith proceeds to fill his stomach. Immediately after dinner the heart gets another "workout"; its increased load must be endured until digestion is completed. If the exercised person still has plenty of ancestral reserve, such a program may be continued for some time.

A thorough hygienic analysis, however, proves that the procedure is not in keeping with good health habits for preservation of the heart muscle. Golf is a safe form of exercise for hearts in and near the breaking age; it may be classified as one of the most desirable forms. The game has the advantage of requiring walking, which within itself is perhaps the most beneficial form of exercise for middle aged and elderly persons. The present methods of travel have within the past twenty-five years made walking almost a lost art. The tendency to ride has resulted quite universally in the increase of flabby musculature of the extremities as well as of the heart. Golf has prevented premature aging and rusting of countless millions of muscle cells. The occasional golf widow who prefers to sit at bridge and await the return of a prodigal husband should learn that golf has its place in the prevention of cardiac deterioration. This statement, of course, *(Continued on page 180)*

FIGHTING DISEASE IN RURAL KENTUCKY

Frontier Nursing Service Banishes Ignorance, Illness and Squalor



An exterior view of one of the nine centers of the nursing service, located in the mountains

A typical family group which receives medical care through the efforts of the Frontier Nursing Service

A member of the nursing staff, preparing for the arrival of a new Kentuckian

An interior view of one of the homelike headquarters of the nurses engaged in this work

Photos by Keystone View Company

"They Don't Have to Die!"

DRUG STORE PLACARD

APPENDICITIS. SEVERE PAINS IN THE STOMACH ARE OFTEN DANGEROUS. DO NOT TAKE PURGATIVES. CALL A PHYSICIAN. DEATHS FROM APPENDICITIS ARE INCREASING ANNUALLY.

The Philadelphia Association of Retail Druggists furnished 2,000 placards to Philadelphia drug stores. These placards were displayed conspicuously.

By MIRIAM ZELLER GROSS

EVERY twenty-six minutes some one in the United States dies of appendicitis. Laxatives and delays in entering the hospital are responsible for 18,000 of the 20,000 appendicitis deaths occurring each year in this country. The knowledge of how practically to wipe out appendicitis deaths by 1943 is established. Its application is simple. What are we going to do about it?

Misuse of laxatives causes most of the tragedies, for laxatives increase peristalsis, the muscular action of the intestines. This increased action in the presence of an inflamed appendix prevents the protective forces of the body from walling off the infection and adds to the rapidity with which poisons from the diseased member are absorbed.

In 400 B. C., Hippocrates saw the dangers in the misuse of laxatives and cautioned, "In Sharpe diseases and in their Beginning, we ought seldom to use a purging medicine."

How much damage the "purging medicine" did was not ascertained, however, until the twentieth century with its modern methods of analysis. And thereby hangs the tale of how the city of Philadelphia made less than a $10,000 investment yield $1,430,000 in about four years, a return of $143 for each dollar spent.

The fourth survey on acute appendicitis in Philadelphia has only recently been finished, and the results have been tabulated. This may not be a very impressive statement; yet it means that because of the fourth survey and the three preceding surveys, Philadelphia has cut her appendicitis death rate so that her citizens have a better chance of surviving appendicitis than do those of any city of more than half a million population in the United States. Her death rate, decreasing when the rate in most places is increasing, is 11.3 for each hundred thousand persons. Appendicitis mortality rates for some other large cities are as follows: New York City, 14.8; Chicago, 14.5; Detroit, 14.2; Cleveland, 14, and Pittsburgh, 17.5.

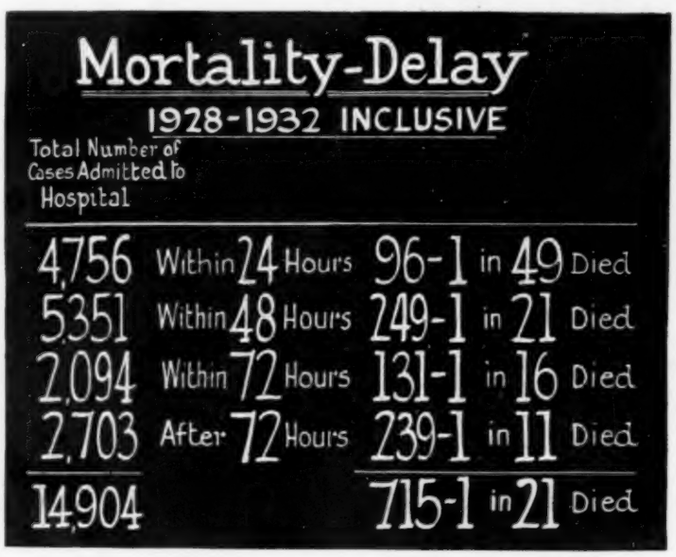
About ten years ago a young surgeon was working in the wards of the Temple University Hospital, then known as the Samaritan Hospital. He saw patient after patient with appendicitis brought in to die, despite anything surgeons or hospital staff could do. He viewed with alarm the mounting mortality rate from a condition not generally considered dangerous. He sought statistics and found that appendicitis deaths were increasing throughout the country; that they had increased 18 per cent in Philadelphia from 1915 to 1923 inclusive. He found that the increase in the mortality rate was 9 per cent higher than for cancer during the previous ten years and that, unlike cancer, appendicitis deaths snatched youth, 25 years being the average age of the victims. The surgeon is not, certainly cannot be, responsible for this awful state of affairs, the intern thought.

"We believe that modern surgical methods are not to blame," said other surgeons with whom he talked, "but how can we prove it? When a person dies following an operation, it is easiest to blame the surgeon, regardless of his innocence or the extremities he may have exercised in fighting to save the patient."

A few surgeons, not having looked at the figures and so not knowing that half again as

many persons were dying from appendicitis as had died fifteen years before, remarked that the mortality rate was nothing about which to get excited. They enumerated the equipment details of the modern operating room and the abundance of knowledge supposedly belonging to today's surgeons. One surgeon said that appendicitis no longer amounted to much, and he recalled the "good old days" when parting with an appendix was news to be wired around the country and survivors were entitled to recite the horrible details for friends who had gathered from miles around. Surgeons operated only as a last resort; castor oil flowed freely and few patients survived.

The young surgeon listened but said little. He continued to examine available statistics, watched the progress of all possible appendicitis cases and obtained the cooperation of other surgeons who also watched cases and recorded results.


Mortality-Delay
1928-1932 INCLUSIVE
Total Number of Cases Admitted to Hospital
4,756 Within 24 Hours 96-1 in 49 Died
5,351 Within 48 Hours 249-1 in 21 Died
2,094 Within 72 Hours 131-1 in 16 Died
2,703 After 72 Hours 239-1 in 11 Died
14,904 715-1 in 21 Died

Startling statistics given in a Philadelphia chart

By the early part of January, 1927, he had reviewed 1,010 case histories before members of the Philadelphia College of Physicians. He expressed his consternation that one in every twelve hospital patients with a diagnosis of acute appendicitis died. He presented facts and figures together with reasons for the mounting death toll reported by English, Canadian and American authorities. He gave his own opinion, tallying with that of certain of these authorities, that the deplorable state of affairs was due largely to misuse of laxatives and to delays between the onset of the symptoms and the operation. He stated his belief that if the public were told of these dangers, physicians warned against the careless prescribing of laxatives, and druggists advised against the indiscriminate selling of them, many deaths could be prevented.

The serious discussion following his presentation resulted in the organization the next year of the first survey, which was financed by the Philadelphia department of public health and carried on under the joint auspices of the Philadelphia County Medical Society (a local unit of the American Medical Association), the Philadelphia College of Physicians and the Philadelphia Association of Retail Druggists, assisted by the superintendents and staffs of twenty-seven hospitals selected for the survey.

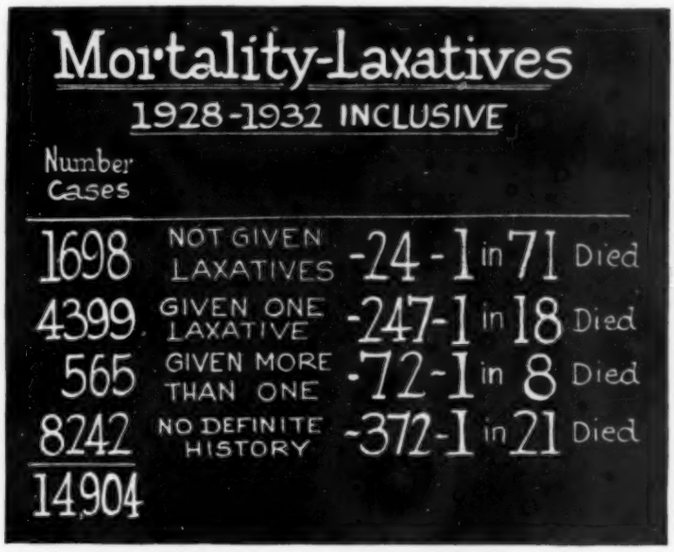
Bulletins aiming to secure the cooperation of the family physicians were published on the authorization of the late Dr. A. A. Cairns, then director of health. Police distributed 2,000 placards, furnished by the Philadelphia Association of Retail Druggists, for display in Philadelphia drug stores. Radio talks were given to warn the public against taking laxatives in cases of abdominal pain. The Philadelphia County Medical Society had 300,000 stickers sent together with bulletins issued by the department of health to 3,813 doctors. These stickers bore the words, "In the presence of abdominal pain give nothing by mouth. Never give a laxative. Apply an ice bag to the abdomen. Call your family physician. Abdominal pain which persists for six hours is usually dangerous."

Students, interns, physicians and even the man on the street became appendicitis conscious. In medical colleges the matter was stressed, and in schools of pharmacy dangerous uses of laxatives were condemned.

After an operation for appendicitis, whether the patient walks out of the hospital or whether the undertaker calls for him depends largely on what happens to the patient before he gets to the hospital. Through the studies of the first survey, in which the case records of 5,121 patients were analyzed, the important thing proved was that proper early care and recovery bear a 10 to 90 ratio to maltreatment and death. In the 4,815 cases which terminated in recovery, an average of sixty hours was found to have elapsed between the onset of symptoms and the operation. An average of nearly ninety-eight hours had elapsed before those patients who did not recover were placed on the operating table. Those operated on within the first twelve hours had 99 chances out of 100 to recover; but chances lessened with each hour of waiting, and there was a considerably higher death rate for those who had had one or more previous attacks and had "gotten by."

Waiting was found to be expensive as well as dangerous. Of the cases studied, 2,663 were "clean" cases, not complicated by peritonitis. The patients were able to leave the hospital after an average of thirteen days while the patients in the 2,458 "unclean" cases had to remain for an average of twenty-four days. Laxatives or delay in getting to the hospital accounted for the "unclean" aspect in practically every instance.

Translating these figures into dollars showed that 22,324 days, costing the city an average of $3 a day and amounting to $66,972, represented the hospital toll for unnecessary complications. Insurance companies, which are business concerns and not philanthropic institutions, estimate human lives as worth, on an average, $5,000. Multiplying this figure by the number of deaths caused by laxatives, and adding to it the $66,972 spent for additional hospitalization gives a total of $1,060,000, representing the bill which Philadelphia was paying annually for the misuse of laxatives. This count does not include the loss of wages during hospitalization or the diminished life expectancy because of possible further complications in the "unclean" cases.


Mortality-Laxatives
1928-1932 INCLUSIVE
Number Cases
1698 NOT GIVEN LAXATIVES -24-1 in 71 Died
4399 GIVEN ONE LAXATIVE -247-1 in 18 Died
565 GIVEN MORE THAN ONE -72-1 in 8 Died
8242 NO DEFINITE HISTORY -372-1 in 21 Died
14904

Another analysis made after the fourth survey

The results of the first survey were something to be taken seriously, and surgeons, physicians, hospital executives and others studied the data. "We must try again," they said. So again they set to work, this time to utilize and further publicize the information gained through the previous survey. No longer was there any "guess" about it.

The second survey started in January, 1930; and again there were stickers, radio talks, health bulletins, newspaper stories, lectures and placards telling what was happening and explaining why the campaign was necessary. This time 3,095 appendicitis patients in twenty-eight hospitals were studied, and the progress of their cases was carefully charted.

The results tallied with those of the first survey. One in every fourteen patients who had taken a laxative died. Those who had taken more than one laxative died in the proportion of one in seven. Only one in eighty died in cases in which laxatives had not been administered. The laxatives most frequently reported were castor oil, magnesium citrate (citrate of magnesia), epsom salt, and magnesia magna (milk of magnesia).

Educational propaganda was definitely putting the appendicitis mortality rate on the down grade. Earlier hospitalization was found than in the previous campaign. This fact alone, at a conservative estimate, was responsible for the saving of thirty-four lives during the second survey.

So clearly had the two surveys demonstrated the value of yearly campaigns that the third survey followed.

During the third and fourth campaigns particularly, there was developed a keen appendicitis consciousness among surgeons and physicians. Physicians strove to get patients to the hospitals early and were chary in prescribing laxatives. The pride of the Philadelphia surgeons was awakened as never before, and improved surgical methods cut the death rate from spreading peritonitis 9.3 per cent in three years. Local peritonitis was reduced 2.7 per cent. Surgeons demonstrated their ability to cope fully with peritonitis complications in appendicitis if—and this was an extremely important provision—laxatives had not been given. Surgeons stood ready to give the best care humanly possible but could not alter the fact that one in four patients died when spreading peritonitis was complicated by the imprudent, untimely and disastrous administration of laxatives.

A consequential feature of the fourth campaign was that students in the high and junior high schools were warned of laxative dangers. Because previous surveys showed an alarming number of deaths among boys and girls of high school age, lectures were given, and stickers bearing warnings against the misuse of laxatives were distributed among the many thousands of students in Philadelphia's fourteen high schools and twenty-two junior high schools.

The fourth survey is finished, and 14,904 appendicitis cases have been analyzed during the surveys, in which 84,424 persons have helped to prepare data. The total cost to the city of Philadelphia has been less than $10,000.

Has it been worth while?

The city of Philadelphia has assisted in saving the lives of nearly 300 citizens and has reaped a substantial financial benefit through reducing the cost of hospitalization in cases of appendicitis.

The medical profession no longer guesses the reasons for the high appendicitis mortality rate; it knows them. In this country today that death rate is 70 per cent higher than in Germany, 109 per cent higher than in England and 313.5 per cent higher than in Italy. But the greatest thing accomplished has been the discovery of the answer to the question, "Why does appendicitis annually take an unnecessary toll of 18,000 lives in the United States?"

The Problem of the Overweight Child

By
W. A. L. STYLES

Obese children are usually placid, cheerful and good-natured, but they lack physical endurance and the normal activity of childhood.

AS A DISORDER of childhood, obesity has unfortunately received scant consideration at the hands of parents and the medical profession. Nature exhibited uncanny judgment in providing human beings with fat, which serves a useful rôle in human efficiency since it acts as a storehouse for body heat and energy, and forms a serviceable pad for tissues and organs alike.

Obesity is best described as an excessive accumulation or deposit of fat in the body structure. More adults than children are subject to this disorder of nutrition. It occurs most frequently at or near the age of puberty; it is more prevalent in females than in males, and it gathers its victims from all classes of society. By common agreement the popular standard has been set as that degree of overweight which seriously inconveniences a child, hampering his activities and making him the target of ridicule. The exact point at which obesity begins is difficult to define; as a general rule, however, it can be said that a child who is from 10 to 15 per cent above the fixed weight standard for his or her age and height may still be regarded as normal, while one who is 20 per cent or more above this level may definitely be regarded as corpulent.

The Picture of Obesity Varies with Age

The picture of the obese child differs materially from that of the corpulent adult. The child's face is round, and there are not the huge jowls and pendulous double chin so frequently

seen in later life. The circumference of the arms and legs is usually much larger than the normal, and the upper portions of the arm and thigh show a greater degree of enlargement than the lower parts of these extremities. There are large pads of fat about the hips, the back and the buttocks and there is a more or less complete disappearance of many of the bony landmarks. The flesh is soft and elastic, and deep folds and creases appear at the wrists, ankles and neck.

Obese children are usually placid, cheerful and good-natured. As a class they lack physical endurance and the normal activity of childhood. Their walk is awkward; their breathing is hurried, and slight exertion increases the respiratory rhythm out of all proportion to the degree of activity. These children are inclined to sleep more than does the average child and to perspire freely.

Because of the absence of complaint from corpulent children, particularly since overweight is not accompanied by the physical defects that characterize underweight, obesity in children has been popularly considered more a discomfort than an actual disorder. It should be appreciated that the underweight child averages from five to six physical defects to the two carried by the average overweight sufferer, although instances are common in which not a single defect could be found after the most careful examination.

Overweight Lowers Resistance to Disease

Serious derangement of the heart and kidneys is rarer in children than in obese adults. However, the presence of much fat in the body tissues means more work for the heart than nature intended, a strain which is considerably increased by moderate exercise. The respiratory tract of the child victim of surplus weight is less resistant to infection, practically inviting acute and chronic disease of the lungs. Indeed, there is likely to be a generally lessened resistance to disease among obese persons.

The relative energy requirements of a child are considerably in excess of those in adult life. In the older person all that is required is a maintenance diet which will enable the body functions to be carried on properly with sufficient calories to cover the loss occasioned by energy expenditure. In the child, however, additional needs must be satisfied for growth. Children's dietaries, therefore, must be made fairly liberal to provide for increased muscular activity and to supply a certain amount of material for the formation of new tissue.

In obesity there is a state of supernutrition in which the storage of fat in the tissues and organs of the body occurs either because more food than the body can consume has been ingested or because the oxidizing powers have become lowered. Excess of food is the more responsible factor in the production of obesity in children. This excess of ingested food may be more real than apparent, as the amount eaten may appear to be quite normal. When the quality of the food has been examined, however, it is found that the diet consists largely of food rich in fats and carbohydrates, such as candy, pastry, bread and butter, with a minimum of fruits and vegetables which have a lower caloric rating. The result is that the total calories represent far more than the actual requirements. In some cases the number of calories may be only slightly in excess of the actual bodily needs; but if the overfeeding is long maintained, particularly in an inactive child, the amount of surplus fat will become considerable.

Obese Children Arouse Envy, Mirth or Pity

Ebstein came fairly close in providing a pithy popular classification of obese children when he stated that three groups could be distinguished by the nonmedical observers: "those who inspire envy; those who occasion laughter, and those who call forth sympathy." The chief cause of all overweight in childhood is the habitual intake of more food than can possibly be utilized; the natural greediness of children and the misdirected zeal of parents are the chief factors in this condition. Sometimes the child may take less food than is consumed by a thinner child and still fail to decrease in weight. This is explained by the greater activity of many children and by the fact that the commoner physical defects usually do not interfere with nutrition in the obese to the same extent that they do among underweight children.

In determining whether or not the food consumed exceeds the child's particular requirements, consideration must be taken of the individual's activity. An inactive child needs less food than a nervous, high strung child who is constantly on the move. Obese children are usually less active than normal children, and this diminished movement offsets the extra labor imposed in moving the larger body.

Another factor in the production of overweight is the disturbance in the function of certain ductless glands. An example of this type is the obesity resulting from an insufficient production of thyroid within the human body. Similar disturbances in the function of the pituitary, the pineal and the sex glands may also be followed by excessive deposits of fat, though glandular disturbances are a relatively insignificant factor in causing overweight in childhood.

The observation that obesity seems to run in certain families gives rise to the suggestion that an inborn anomaly of metabolism may be inherited. But one must allow for the probability that members of a family share in common certain habits of living which may become

responsible for the production of excessive weight. Furthermore, too many children are permitted to indulge in excessive eating on the ground that they were born to be fat and that nothing short of a miracle can save them from becoming overweight.

It is becoming more generally understood that prophylaxis is a powerful weapon when it is used to combat overweight in childhood. It is the duty of physicians who come in contact with children showing tendencies toward overweight to warn the parents of the probable outcome and to suggest proper measures for the control of the tendency, no matter how young the child may be. Although mothers often pride themselves on possessing an unusually fat baby, such infants present a far less prepossessing appearance to the disinterested onlooker, while to the physician they automatically suggest a physical state hardly compatible with health.

Superfatted Child May Be Treated Successfully

Measured feeding produces the most successful results in the treatment of superfatted children. The child should be weighed, and a careful record should be kept of the calories used in the food for a week. At the end of the week a second weighing should be given to ascertain how much fuel the body is able to consume in that period. A reduction of one third of the daily average should then be made in order to give the body an opportunity to burn up some of the stored fat. If the weekly loss in weight does not exceed 2 pounds, the child will feel better for it during the reduction period and will become a more efficient being.

If there is a loss of weight with the one-third reduction in calories contained in the diet, a further reduction of 100 calories a day should be made until the amount of food that will bring about the desired rate of loss is found. The total amount may be reduced to 900 calories a day, if necessary, without occasioning any noticeable pangs of hunger.

The character of the food habitually taken should be changed so as to reduce or eliminate all foods of high caloric rating, such as fat meats, butter, candy, pastry and chocolate and to substitute lean meats, fruits, leafy vegetables, bran muffins and bulky foods which not alone satisfy the appetite but help to overcome constipation.

Although the successful treatment of obesity in children is in the great majority of cases a question of measured dieting, nevertheless physical exercise, short of the fatigue point, will be of valuable assistance. Exercise must be carefully graduated at first in order not to overtax the child's strength and then should be slowly increased. Of established merit is the cultivation of the habit of eating slowly at meals and taking the minimum amount of fluid with the food. The various hydrotherapeutic measures so frequently employed in adult cases of obesity are unnecessary in children. Swimming is a highly recommended form of exercise for older children, while walking, skating, skiing, tennis and golf may be employed with distinct benefit. The administration of thyroid extract should never be countenanced by physicians, except when there is sufficient evidence on hand to warrant the belief that thyroid deficiency is the causative factor involved in the case.

Reduction of weight in children is a safe procedure if it is carried out under the proper supervision. Restriction should be placed on the use of carbohydrates, especially candy and sweet desserts, with an added limitation on the amount of potatoes, rice and white bread taken. The full allowance of milk may be maintained in the average case, as it is of paramount importance that dieting children should use milk either as a beverage or as a basic food incorporated in their menus.

Beware So-Called Antifat Remedies

Particular stress should be laid on the avoidance of the widely advertised remedies now offered to parents as safe but effective treatments of obesity. Many of these remedies contain thyroid extract or some other powerful drug which exerts its action on overweight by deranging the digestive tract.

Obesity in children is seldom a serious condition and ordinarily requires little more than a restricted diet and regularity of exercise. Generally this is not difficult to obtain, as the sufferers are usually anxious to reduce in weight because of the attention they attract and the remarks which their abnormality occasions in public.

Parents should cease becoming disturbed in the presence of minor evidences of overweight for, strictly speaking, the term obesity is reserved for those cases that show an excess beyond a level of 20 per cent above the average weight for a child's height and age.

Far from being advantageous, overweight has been shown by the investigations of life insurance companies to be a distinct liability to health and even to life after the age of 30. Since nutrition has become the subject of intensive popular interest and the happy hunting ground of faddist and faker, it would appear that as an additional safeguard to the health of the nation greater attention should be focused on the treatment of the unduly stout child.

In contrast to the problem of the overweight child, the March HYGEIA *will present an article by Regina Woody on the problem of the underweight child.*

TRAINING FOR ATHLETICS AND HEALTH

Chapter XIV

Training for Minor Sports

ALFRED E. PARKER

FOR a number of years I have had a close friend who is an amateur wrestling champion. On several occasions this friend, in referring to the sport of wrestling, has said: "The average person usually thinks of wrestling as a brutal and savage sport. As a matter of fact, it is one of the most scientific and health producing forms of play that is known. Did you know, for instance, that 'Strangler' Lewis held the championship of the world in his late forties, that Frank Gotch held it at 45, that Stanley Zbyszko held the same championship at 54, and that Ad Santel held the light heavyweight championship for more than fifteen years? What other sport, I ask you, can boast of the fact that the longer you stay at the sport the better you become?

"There are several reasons why wrestlers can compete over so long a period of time. In the first place no other sport brings into natural play the vital organs of the body so much as wrestling. The turning and twisting of the body into various shapes and the constant resistance against various body scissors all tend to strengthen the muscles needed for good digestion. The same objectives are sought when one takes 'daily dozen' exercises, but in wrestling they are greatly intensified."

Because wrestling requires so much of the muscles, training for this sport has to be rigorous. Besides muscular strength there must also be endurance. The endurance for wrestling is not the same as is necessary for most other sports. To illustrate, a wrestler builds up a natural lung capacity which is essential in ordinary living, while a track athlete often develops his lung cells to excess. Lung cells soon atrophy when a track athlete leaves his sport and takes up a sedentary life. Wrestling does not develop extra lung cells, and consequently it leaves the participant in fine condition for business or professional life.

To illustrate further the difference between wrestling endurance and track endurance, "Strangler" Lewis at 50 is able to wrestle hard for two and three hours at a stretch, but if he were called on to put the same energy into running a mile, he would probably be winded in short order.

Conditioning yourself for wrestling is best done by jogging half a mile each day. As you jog, extend the hands sideward and twist the body on the balls of the feet. This body action resembles somewhat the "shimmy," but it is excellent exercise for bringing into play the abdominal muscles, the muscles that are so essential in a hard wrestling tussle. Tumbling is also a good form of exercise for conditioning the muscles, and it is helpful to squat and then throw yourself up on your toes. The general

Training for lacrosse is best done by actually taking part in the game.

P. & A. Photos

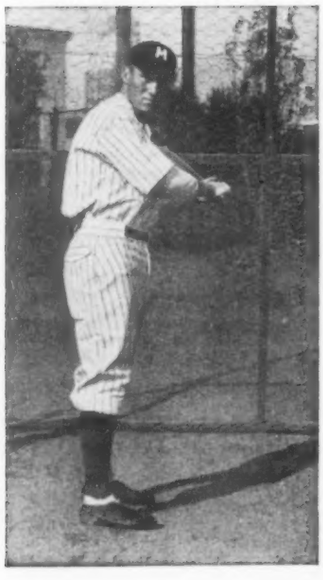


Illustration of correct batting form

rules of training in regard to diet and sleep apply to the wrestler as well as to those who compete in any other sport.

Contrary to the opinion of some, wrestling is not a brutal sport, and the time to learn it is in your teens when your muscles are easily adapted to the many movements of scientific tussling.

Like wrestling, boxing requires a special kind of endurance but not the kind of endurance that enables a man to run 2 miles. As in wrestling, one of the easiest ways of developing endurance, lung capacity, is to jog half a mile each day. Again, as in wrestling, twist the body on the balls of the feet as you run, for powerful stomach muscles are essential in boxing.

Of course, general setting-up exercises and working out on the punching bag will build the muscles of the boxer. The exercises at which he should work especially hard include lying on the back with the legs straight up and describing a circle with the feet; jumping a rope for leg development, and weight pulling for the muscles of the back.

In addition, boxing requires special quickness of the eye. This skill will come only with continual practice until you are able, as champion boxers are, to catch the fastest fly no matter how speedily it may shoot past your face.

Cricket, another minor sport, is a sociable game and does not require much training of the muscles other than that acquired in playing the game. To train severely for cricket would take all the fun out of participating in a game that is more recreational than competitive.

Training for lacrosse, field hockey and soccer is best done by actually taking part in the game. Work slowly at the fundamentals of these games in the early season; follow out the general rules of diet and sleep; and as the season progresses, the muscles will adapt themselves to the game's demands.

Special conditioning for ice hockey is possible through setting-up exercises which develop the muscles of the legs and back. Further than that, conditioning comes from participation in the game.

CHAPTER XV

TRAINING FOR BASEBALL

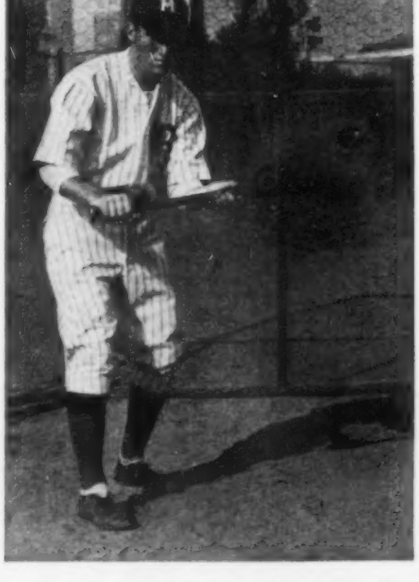
WHEN a certain high school coach called out his prospective baseball players at the beginning of the season, he found among them a lanky, red-headed lad, who, on being asked what position he wanted to play, replied, "I don't care. I'll try any position."

As the season progressed, the coach found that "Red" was good for almost any position, but he was especially good at short-stop. And in his freshman year "Red" got a regular job playing short-stop. Moreover, whenever the coach talked about training rules, "Red" always listened more attentively than any other member of the team. Not only did he listen, but he kept strictly in training.

The following fall, after "Red" had made the baseball team in his freshman year, he was asked to go out for the football team, for it was known that he was an excellent football player.

"Nope. I can't do it," replied "Red," in answer to frequent requests. "Some day I'm going to play big league baseball, and I'm not going to take any chances of injuring my arm at football."

The year after "Red" was graduated from high school, his "some day" came and he was signed by the St. Louis Browns. Today, "Red" Kress holds a regular short-stop position with a major league team, and today, as when he attended high school, he keeps in training every month in the year.



How to hold the bat for a bunt

There are those who are of the opinion that training for baseball is unnecessary. Nothing could be farther from the truth. Baseball is a highly scientific game; the mere throwing of a ball, which may look easy, requires at least 400 of the 696 muscles in the body. To be able to throw a ball, to put the muscles of the back and legs into that throw and then suddenly stop short as the ball is released, calls for the highest type of muscle coordination.

Now, as never before, coaches and players realize that special training for the baseball player is necessary. To attune muscles to intricate movements and to keep muscles from becoming lame demands training. This training may be secured in a

number of ways. Here are a few suggestions for baseball players: Work with a medicine ball to limber up the muscles of the arms and the shoulders; practice arm exercises such as rolling the arms and extending the arms forward, sideward and upward, and increase the grip of the fingers by opening and shutting the hand and by squeezing a rubber ball.

Though it is important for a baseball player to build the muscles used in throwing, he also ought to develop the speed in running which is so necessary in getting around the bases in fast time. This is a part of training that players have neglected in the past. Today, however, it is not neglected, and the wise baseball player practices at sprinting and starting just as a trackman does. To be a fast runner makes him that much more valuable to his team. Being able to run takes "wind," and this should be developed by jogging and by deep breathing exercises.

Even more important is the training that is necessary for individual positions. The pitcher is unquestionably under greater strain than any other member of a team. To be able to last throughout a long season, he must take special care of his arm. He can do this by warming up slowly each day, by practicing arm exercises and by keeping his arm well covered when he is not using it.

A catcher should strive for all-round development of his muscles, with special attention to the quick shifting necessary in throwing off his mask and "pegging" to different bases. There is no doubt that a catcher has a hard job and he must work constantly to acquire the skill that is necessary in the difficult throws he has to make.

The three basemen and the short-stop must practice to attain a long reach. They must know how to leap into the air, and they must be especially able to shift position quickly. Basemen must make quick and accurate throws which require the use of a large percentage of the muscles of the body. They ought to spend a little time each day limbering up with exercises that require the exertion of a large number of muscles.

Outfielders must be able to run fast; they need a long reach, and they must be able to throw a long distance. Throwing a long distance is hard on the arm; consequently they should not work too long each day. Complete muscle development is quite necessary for the outfielder.

Every ball player will improve his playing if he spends some time training his muscles each day. There is not a player on a team who does not at one time or another need to have a good reach, to be able to leap off the ground, to start quickly and to turn rapidly in any direction. Such movements can be executed well only when the muscles are elastic, and this condition does not come without special training. Of course, the baseball player should, like other athletes, watch his eating and get plenty of sleep and rest.

Correct form in pitching a ball

While baseball players do not suffer from many injuries, there are a few accidents that may occur on a diamond. One of these is a dislocated finger. The finger usually can be put into place by grasping the end and pulling it out away from the hand. No bandage is needed.

A broken finger needs more attention. Gently draw it into position. If it does not go into place easily, leave it alone. Put a narrow padded splint under the finger and hold this in place with a bandage. Then support the hand in a sling and take the player to a physician as soon as possible.

"Split fingers" are common among baseball players and are caused by splitting down the web between the fingers. Usually the split is a clear-cut wound. Paint the cut with iodine and then bring the two fingers together and bind them in this position. The split will require medical attention.

Sometimes it happens that the finger itself is split. When this occurs, apply iodine and cover the wound with a piece of surgically clean gauze. Frequently, fielding a ball will cause a finger nail to be partially torn off. When this happens, seek the aid of a physician.

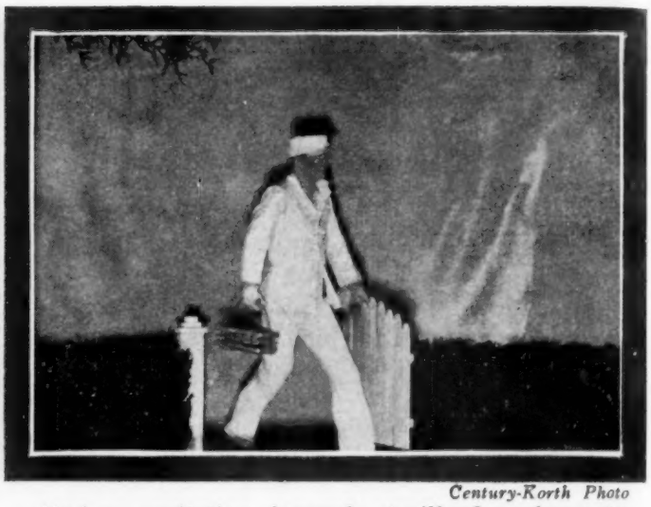
Injuries that are cared for immediately are soon healed; the player who neglects them may be out of the game for a long time.

First aid, as previously described, should be followed as promptly as possible by medical attention.

(To be continued)

How to slide into a base

Fifty years ago, when market milk was not cooled, bottled or pasteurized, it was the greatest single source of childhood sickness. The old way was by no means the best way.



Century-Korth Photo

Modern sanitation demands sterilized equipment and cooled, pasteurized, bottled milk for the market. (State of Illinois Department of Health, Century of Progress Exposition.)

SHALL WE PASTEURIZE?

By W. W. Bauer

OUT of the current tumult and shouting about milk there is one point that must be kept clear if our communities, and specifically our children, are to be safe. The milk industry, like other lines of business, is passing through a crisis. Brightening economic skies will not sweep all its problems away as the sunshine dissipates clouds. The dairy business will still have its problems: price to the farmer, cost to the consumer, distribution and marketing difficulties, and wastefully competitive distribution. All these are important, and all must be settled. They must not, however, be solved in such a way as to endanger the safety of the community, and that means especially the safety of the children, who are the principal users of milk. In the gathering, processing and distribution of milk, pasteurization stands out sharply as an important element in the cost to the ultimate consumer. Considerations of economical distribution cannot ignore this factor of pasteurization. It is proposed in many quarters that pasteurization should be abandoned in the interests not only of economy but of better milk. Therefore every parent has a vital stake in the answer to the question, "Shall we pasteurize?"

A brief glance at milk as a foodstuff is in order before proceeding further. As much as two thousand years ago, the Cappadocian physician Aretaeus had some good Greek words to say for milk as a food. He waxed a little overenthusiastic, it is true, in saying that milk is a food which makes the taking of other nutriment unnecessary. It is now known that milk is not a complete food, but it is also recognized that it approaches perfection more nearly than any other foodstuff. Diets of children must be built about milk except in rare instances where idiosyncrasy forbids; diets of adults are improved if they include a liberal allowance of milk. It is not strange, then, that serious proposals have actually been made to declare the milk industry a public utility and to regulate it accordingly.

It is necessary also to realize that milk is as good a food for baby and adult germs as it is for human beings. Germs thrive in milk; laboratory workers make use of milk as a medium for cultivating certain kinds of germs for experimental purposes. Since milk is produced and handled in surroundings which teem with bacterial life, and germs may easily be introduced at almost any time during production and handling, the importance of measures to protect milk against the introduction of disease germs is evident. Milk can never be germ-free except when it is sterilized in the laboratory, but it can and must be guarded against disease germs. The protection of milk against dangerous contamination includes a number of steps, which may be briefly reviewed here, though they have been discussed more fully in other articles in HYGEIA.

Clean safe milk, it is now generally agreed, must come from healthy cattle, tested against tuberculosis and, if possible, against contagious abortion. Such cattle must be well fed, well housed, maintained in as clean a condition as possible, and milked under satisfactory condi-

tions. Sanitary cattle barns must be properly situated, well lighted, well aired, screened, and frequently swept and limed. Manure gutters must be kept clean. The floors ought to be of material impervious to moisture, as ought the mangers and stanchions. Exposed rafters are not to be desired, and the accumulation of rubbish must not be tolerated in the barn. Small animals, except possibly cats where mice and rats are troublesome, must also be excluded. Horses and cows must not be kept in the same barn. Milk must be removed from the barn promptly, cooled at once and kept covered and cool until delivered to the bottling plant. Yards and pastures must be dry, clean and free from noxious weeds. Milkers must be personally clean, especially as to hands; they must wear clean clothes and use only clean utensils. Above all, milkers must be free from any communicable disease.

The foregoing is a brief picture of ideal conditions which ought to surround the production of milk. Some of them, such as the testing of cattle and elimination of tuberculous animals, have been achieved in a few states and approximated in others, by dint of strenuous efforts on the part of health officials, doctors, and the more enlightened dairymen. Testing for abortion is not yet common. Diseases of the udder may still occur and cause contamination of the secretion. The other favorable conditions are found in their entirety on a few selected farms here and there. Usually such farms produce the high grade of milk called "certified," which is expensive and therefore not available to most families. A few farmers meet all the aforementioned requirements to a considerable degree though not fully enough to be allowed the use of the term "certified," which is protected by patents and limited to those producers who meet the rigid requirements set up by medical milk commissions. The number of careful dairy farmers is increasing and probably would increase faster if economic considerations did not interfere. Nevertheless, to all intents and purposes today, the greatest percentage of milk delivered to American consumers is produced under conditions which do not remotely approximate the ideal. This is not said as a reproach to any group but merely as a statement of fact. The fact is of interest to every parent; at least it ought to be, because it involves potential danger to children.

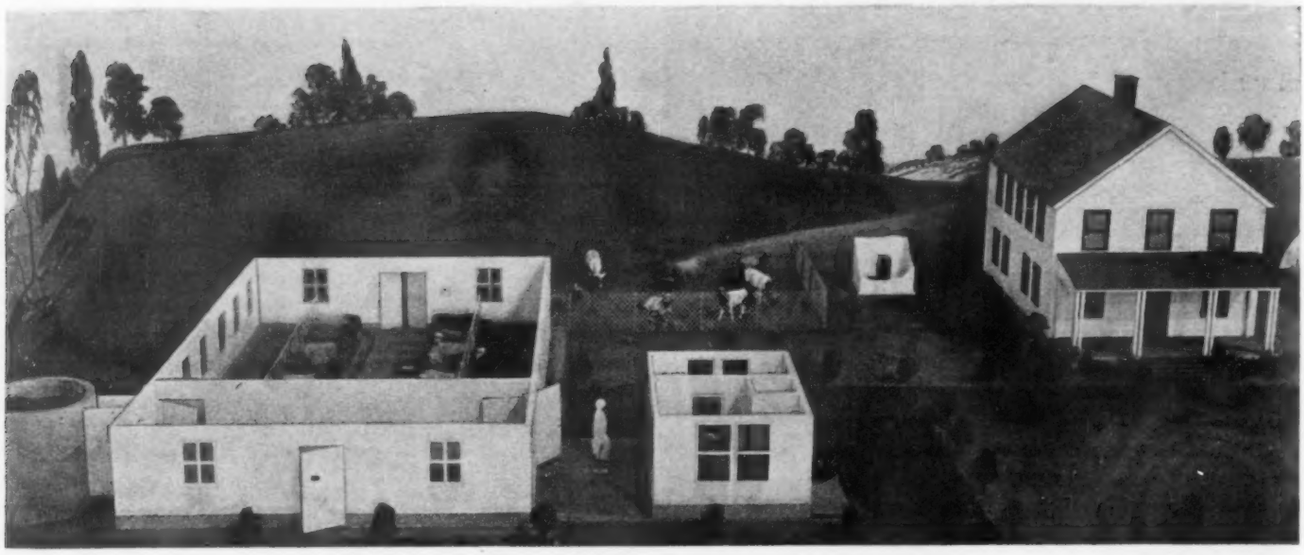
It is not difficult to visualize the possible introduction of dangerous bacteria into milk produced from diseased cattle. Contributory factors include dirty barns, dirty milkers, dirty utensils, improper cooling and inadequate protection against air-borne dust or droplet infection. It is not necessary for all the unfavorable factors to be operative in a given instance or even for a majority of farmers to be ill equipped, uninformed or careless; just one bit of carelessness is all that is needed to permit contamination, just as one slip in the sterile technic of the operating theater may spell infection of the patient. These considerations are not theoretical. They are supported by a tremendous volume of proof, of which only a little can be cited here.

The United States Public Health Service reports 612 outbreaks of communicable disease, traced to milk, between 1908 and 1927. Undoubtedly there were more; this figure represents only those actually traced to milk. Other outbreaks either could not be proved to be milk-borne, though in fact they were, or else were not traced at all. More than 42,000 persons suffered in these epidemics, and more than 400 died. A note appended to the figures says that they are incomplete. Among the diseases included in this list of outbreaks were typhoid, paratyphoid (a related disease), diarrhea and dysentery, septic sore throat, scarlet fever and diphtheria.

At the 1933 meeting of the State and Provincial Health Authorities of North America, a report was received of thirty-three epidemic outbreaks in 1932. These were scattered over forty-six states, the District of Columbia and two of the nine Canadian provinces. Deaths reached a total of sixty-seven, of which thirty-nine were due to typhoid alone, and 1,030 persons were reported ill in these outbreaks. The list of diseases differs a little from the one previously mentioned: diphtheria is not in the list, but poliomyelitis and undulant fever, not present in the earlier report, are now to be found. Of the thirty-three outbreaks, thirty-one were due either to raw milk or to reinfection apparently after pasteurization. The compiler of the report, Dr. S. J. Crumbine, general executive of the American Child Health Association, reemphasizes in the 1932 report a paragraph from the previous year's report:

"More and better epidemiological work would probably reveal the source of contamination in unknown cases and undoubtedly lead to the discovery and reporting of other milk-borne epidemics that now go unrecorded." In other words, the figures are incomplete; the toll is greater than is known.

Information at hand concerning individual outbreaks includes a number of interesting reports. In 1929, in New York State exclusive of New York City, three epidemics of septic sore throat and one of typhoid were reported. In no instance had the milk been pasteurized. In one epidemic of septic sore throat twenty-two factory workers who drank from one source at the factory and another at home contracted the disease, while those in the same families who drank only from the home source remained well. The original case was found in the dairyman's family. Another epidemic of the same disease was traced to a cow with an inflamed



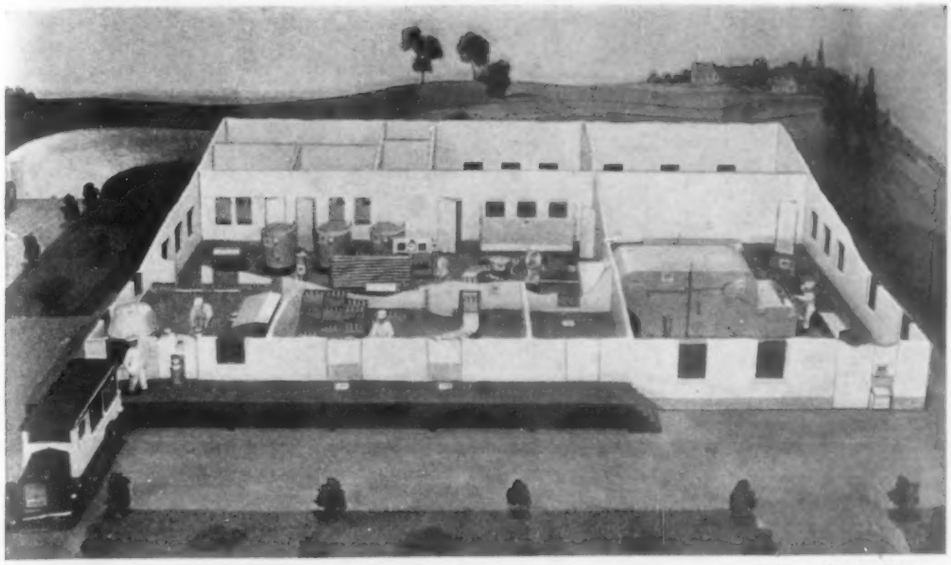
teat, whose milk, nevertheless, was distributed. Seventy-five cases and one death resulted. One might go on thus at great length with details of epidemics, but enough has been said to illustrate the point. Just one more example will be cited, because it is so typical of milk-borne epidemics and because it was so effectively studied and reported, but especially because the aftermath is of considerable importance.

Lee, Mass., suffered an outbreak of 900 cases of septic sore throat and forty deaths in the summer of 1928. The epidemic was traced to milk from an infected cow. The *New England Journal of Medicine,* commenting on the attitude of the community after the epidemic, pointed out that within a few months the people of Lee seemed determined to forget their experience in spite of the fact that without cost to the county an appropriation was arranged to give them six months' milk inspection as a demonstration. The state health authorities were alert, but the local community was apathetic. Meetings held with members of the boards of health of the county elicited but slight interest. The editorial closes with a demand for universal pasteurization of milk. Lee now requires pasteurization of all milk sold at public eating places, which loomed large as distributing centers of the epidemic. Milk delivered to homes may still be raw if it comes from cattle free from tuberculosis. Lee has not learned all its lesson.

Much has been said thus far about the production of milk and the danger of introducing infection, with disastrous results, into raw milk at the farm. The handling of milk after it arrives at the distributing plant—assuming that it is not peddled by the producer direct—is not free from danger. Plant machinery may be contaminated as well as farm utensils; dairy employees may be diseased and may infect the milk as readily as may those on the farm. Therefore cleanliness and a minimum of handling are as necessary in the bottling and distributing plant as on the farm. All these factors are beyond the control of the individual parent to a large extent, except through the exercise of discrimination in buying. They are not beyond the control of the community. Correct ordinances, honestly and fearlessly enforced, will protect the milk supply. Of course, good legislation and adequate enforcement require the active support and not merely the passive acceptance of the citizens. Parents especially should take a lively interest in all matters having to do with the sale and distribution of milk in the community.

As already noted, large percentages of outbreaks have been traced to raw milk; in the few instances in which pasteurized milk has seemed to be implicated, there was question as to the adequacy of pasteurization, or proof or at least suspicion of infection of the milk after pasteurization. In the minds of those who after long and painstaking study and observation recommend universal pasteurization, there is no doubt that under conditions as they exist today, the safe production of raw milk in quantities adequate to supply the demand and at a price within reach of all is impossible. Ideally, perhaps, pasteurization ought not to be necessary; we are dealing, however, with a condition, not a theory.

Pasteurization is recommended as a universal practice in the standard milk ordinance prepared by the United States Public Health Service and endorsed by the Conference of State and Provincial Health Authorities of North America. The American Public Health Association and the American Child Health Association stand unreservedly for pasteurization. The American Medical Association has passed a resolution supporting the public health authorities in their fight for safer milk. The British Society of Medical Officers of Health also supports pasteurization. Pediatricians commonly recommend boiling of milk, even of pasteurized milk, for babies. Those who know best are not



Century-Korth Photo

Model of a modern dairy, showing how sanitation is obtained in milk handling. Scrupulous cleanliness is required in cattle, milkers, yards, pastures and barns as well as in the bottling and distributing plants.

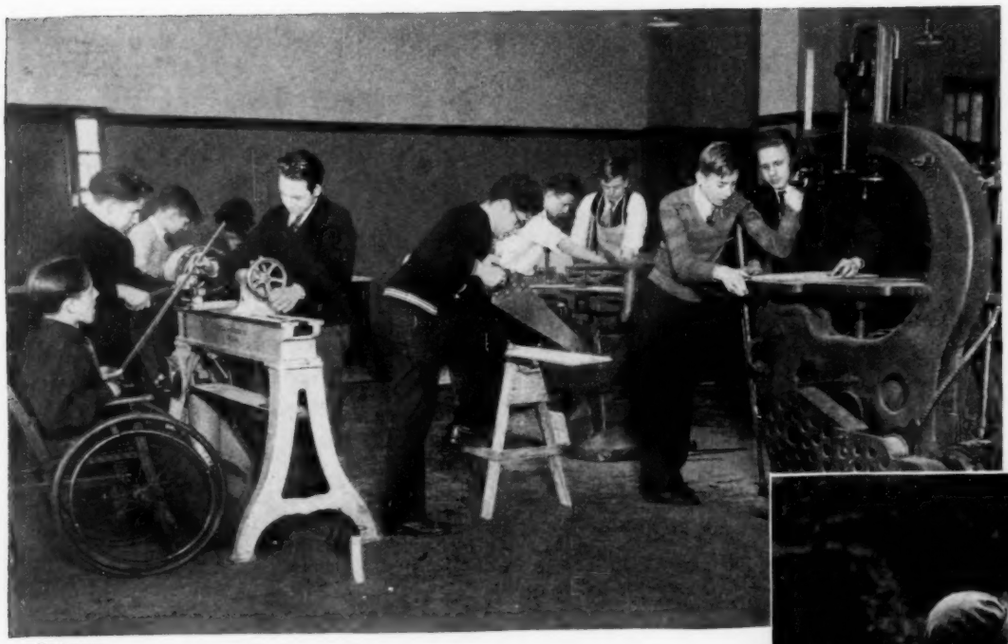
divided. That their advice has not been followed is evidenced in studies made annually by Crumbine, cited earlier in this article, and periodically by Bigelow of the Massachusetts state department of health, to mention but two, which demonstrate that the milk supplies of the larger cities are quite well protected but that the smaller communities still seem to prefer their milk raw and that they suffer in consequence from milk-borne outbreaks of epidemic disease. The number of epidemics, however, appears to be on the decrease, and the number of cases too is decreasing, owing largely to the fact that the larger supplies are protected. If it had not been for conditions of distress prevailing since 1929, perhaps progress toward better milk supplies would have been more rapid.

The depression, however, had certain unfortunate effects on the milk industry as on others. Farmers with an excess of milk and an unsatisfactory market price, on the one hand, and city dwellers cutting food budgets on the other hand, offer a situation in which economic pressure almost inevitably produces an effort to bring producer and consumer together, eliminating the middleman; that is, the distributing dairies. In so doing, the pasteurization process, which is for the most part in the hands of the middleman, is also eliminated. Ordinances in force in the larger cities offer a bar to this tendency; but ordinances can be repealed by political pressure, or they can be circumvented by offering unsupervised milk, unpasteurized or imperfectly pasteurized for the most part, on the borders of cities and outside the jurisdiction of municipal health departments. There is no law to meet this situation, of which *The Journal of the American Medical Association* has warned in an editorial, entitled, "Bootleg Milk." Only the buyers are able to beware of being caught in this trap.

The menace of raw milk, supervised, has been shown in the experience of numerous communities. The danger in using milk offered without any supervision is even greater. The only lure in these risky roadside milk supplies is that of price, a dangerous basis on which to purchase a commodity which, like milk, combines so many potentialities for harm with its undeniable virtues as a food.

Pasteurization has been opposed on a number of grounds. Some of these are legitimate, if honestly advanced, as, for instance, the charge that pasteurization is used to render dirty and dangerous raw milk apparently fit for consumption. Such employment of the pasteurization process is indefensible. Advocates of pasteurization do not suggest pasteurization alone; they advocate sanitary inspection of milk production and handling from the cow to the consumer, combined with pasteurization as an additional safeguard against occasional human error and failure. It has also been alleged that pasteurization is itself imperfect and undependable. This is true only so far as any method applied by human agencies may fail at some time. Properly performed, pasteurization is effective as a practical safeguard against the germs of disease, though it does not kill all bacteria; and, indeed, it is not necessary that it should. It is not only possible but practicable to perform pasteurization properly under commercial conditions. Automatic temperature control, thorough mixing of the mass of milk, and temperature recording by automatic instruments for the information of supervisors and inspectors are necessary and have been developed on a satisfactory scale for commercial operation. It has also been objected that pasteurized milk may be reinfected after processing; that is not a valid reason for omitting the safeguard of pasteurization, but it merely emphasizes the necessity of employing all sanitary safeguards meticulously at all stages of the handling of milk.

Perhaps the most telling argument against pasteurization has been that the food value of the milk is impaired in the heating. Much has been made of "natural" milk, a term which is basically unsound when *(Continued on page 158)*



Century

Boys learn to fit themselves for life at the Jesse Spalding School for Crippled Children in Chicago.

Globe

An urgent call and a motorcycle speed this English nurse.

Keystone

Gerald Stier and Joy Leonard are healthiest youths in Illinois.

Ewing Galloway

Public health clinics replace witch doctors in Asiatic Russia.

Poison in the Pantry

By

SOLON R. BARBER

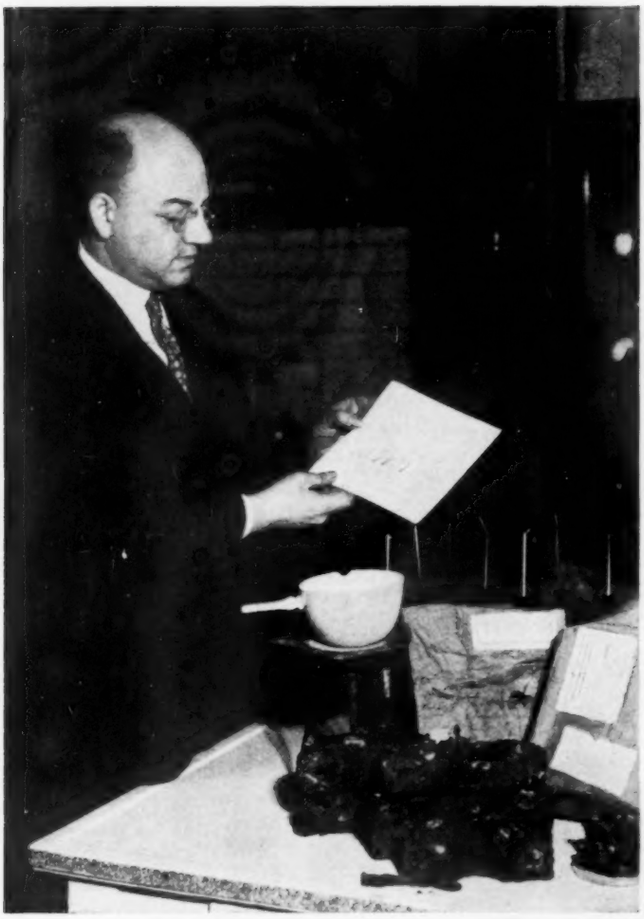
THROUGHOUT the history of man the word "poison" or its equivalent in hundreds of languages has spelled terror. When adults see the word on a bottle or package they are on guard. But what of children who cannot read or who are too young to have become familiar with the appearance of the many common chemical substances and medicines, some potentially poisonous, found in every medicine cabinet or pantry? They are completely helpless. Newspapers constantly carry stories of deaths caused by the accidental consumption of some of the poisonous compounds which have valuable uses in the household. One hears of flour becoming contaminated with arsenicals and of children and adults being poisoned by such common things as drain cleaners, virulent disinfectants, insecticides and the many other materials in common use on the farm or in the city home.

Cases of poisoning are also not infrequently caused by food which has become spoiled, which has been improperly processed or put up in the home, or which has become contaminated with poisons through careless handling. The Federal Food and Drug Administration, in enforcing the national pure food and drug law, is frequently called on to investigate instances of food poisoning. A recent case involved the death of a woman who lived in Moultrie, Ga., and the severe illness of her two sons as a result of eating smoked link sausage packed in oil in 45-pound cans. The sausage was wholesome and free from contamination when it left the packing plant, but it had been carelessly handled either in the retail store or in the woman's home. Such food obviously should be kept under refrigeration, and the lid of the can should be securely fixed. Studies of the case, however, disclosed that the can of sausage had not been properly closed and that it had been placed in a room where the temperature was high. Spoilage, illness and death were the prices of some one's negligence. The manufacturer was not to blame. He had taken the precaution to place two lids on the can, the inner one to be used between sales. Furthermore, he had printed on the can instructions that the meat should be kept under refrigeration.

A few days before Christmas in 1929, the Federal Food and Drug Administration put one of its most expert and searching inspectors on the trail of fruit cake which was said to have made several persons in a Virginia town violently ill. A specimen of the cake was delivered to the laboratories of the Administration, and careful tests and analyses proved that it contained material quantities of arsenic, a deadly poison. The cake had been purchased from a housekeeper who conducted a small retail business in home-baked fruit cake for the holiday season. Had the food been retailed strictly within the borders of the state in which it was manufactured, the Administration would not have had authority to seize consignments of it. But in this instance the cake had been shipped interstate, thus bringing it under federal jurisdiction. Had the entire supply of cake baked by this housekeeper been accidentally poisoned, as some of it was, a number of families would probably have had an extremely sad Christmas. A thorough investigation of the

Ewing Galloway

A careful home maker keeps her food in good condition so that food poisoning cannot occur.



Tests made by the Federal Food and Drug Administration disclosed arsenic in this fruit cake.

affair showed that the family of the housekeeper who had baked the fruit cakes had purchased an arsenical insecticide for garden use. This was stored on the premises. A complete search of the house and grounds brought forth a partially empty sack containing small quantities of white powder which proved to be calcium arsenate, the same substance found in the flour and in the fruit cake. The contamination of the flour had occurred accidentally in the household of the family.

Careless Food Handling May Result in Tragedy

I do not want any careful housewife to think that I am reflecting on her good housekeeping in what I have said or in what I am going to say. A careful, modern home maker keeps her food in such good condition that she never has to experience the sad results of food poisoning, either of herself or of her family. Unfortunately, however, food is sometimes carelessly handled and becomes tainted or infected with organisms which cause disease. Then the housewife has no one but herself to blame. Many women put up fruits and vegetables for winter. Not infrequently, food poisoning is caused by such foods. City, state, and federal health officials are occasionally called to make investigations of illnesses or deaths attributed to the consumption of home-canned foods, or sandwiches or salads which have been carelessly prepared or improperly cared for in the household.

In the early spring of 1931 the attention of government experts was called to cases of food poisoning in Grafton, N. D., where twelve persons died from eating home-canned peas. Analysis of the food showed the presence of the deadly Bacillus botulinus. The bacteria that cause botulism are abundant in many soils, and some may be present in most soils. When these bacteria germinate in the closed container, they form a deadly poison. Fortunately they will not grow in salt solutions in which there is more than 9 per cent salt, and they are killed at boiling temperature if the solution in which they are present is sufficiently acid. The only safe course, then, in canning nonacid vegetables, such as asparagus, beans, corn, beets and spinach, is to destroy all bacteria that may be present by canning under steam pressure. In the case of acid vegetables and fruits, such as tomatoes, apples, peaches and raspberries, the bacteria are killed at boiling temperature, (212 F.); but with nonacid vegetables there is no assurance that B. botulinus will be killed by processing in boiling water unless the material is heated for six hours or longer. A six hour treatment of peas or similar vegetables would bring forth an extremely unattractive product, but a much shorter heating is required with a temperature of 240 or 250 F., such as may be obtained in a pressure cooker. Pressure cookers are now standard equipment and are readily available at small cost.

The Deadly Botulinus Is Discovered

Botulism was first recognized as a natural product of spoilage in 1735. Before that time it is probable that many persons went to the scaffold, the stake or the rack, charged with poisonings of which they were not guilty. Three or four centuries ago the causes of food spoilage were inadequately understood or not known at all. Imagine the host serving his guests sausage put up in air-tight casings and containing, unknown to all, the deadly botulinus. When death struck the majority of guests at the dinner, the law did not blame the bacteria but instead blamed the cook.

Fortunately, cases of botulism poisoning in the United States are rare these days. W. G. Campbell, chief of the Federal Food and Drug Administration, reports that no instances of such poisoning attributable to commercially packed foods have occurred in the past three years. When federal officials are asked to investigate illness or death caused by this organism, almost invariably they find that the casualties are due to the consumption of food improperly or carelessly put up or handled in the home.

Dr. A. C. Hunter, an Administration specialist, gives sound advice on how to avoid poisoning from botulism. He recommends following five fundamental rules: 1. Use only clean, sound, raw materials when canning or preserving. 2. Follow the most recent instructions regarding processing in an attempt to sterilize the product. 3. Discard all defective cans and glass containers. 4. Carefully examine all foods for signs of spoilage, rejecting that which is unfit. 5. Before tasting, thoroughly boil all questionable food.

Whereas, because of the wide use of commercially packed foods botulism poisoning is extremely rare, other forms of less severe poisoning are sometimes caused by the consumption of commerical products which have been improperly processed or handled. The buyer should never use canned foods that show any evidence whatever of spoilage. Such spoilage may be evidenced by bad odors, gas formation, cloudiness of the liquid, or similar signs. Swelling of the top of the can is a danger signal. Never use foods from cans that show springing, flipping or swollen lids. Throw away, without tasting, food from glass jars that show leaks around the rubber rings, cloudiness of the liquid, or spurting of the contents when opened. Never taste preserved foods that look questionable, unless you first boil them from twenty to thirty minutes. If in doubt about any food, throw it away.

If food is to be eaten raw, see that it is fresh, clean and free from abnormal odors, from rotting areas and from mold. Always wash food in clean water before using. Heat cooked food to the boiling point to keep it free from contamination. If you want to keep food for more than a few hours, put it on ice or keep it in the refrigerator.

Proper Canning Spells Protection

In all fairness to the careful housewife and the great majority of manufacturers, it must be said that the domestic and commercially canned and bottled food supply is unusually wholesome and free from hazards to the health. This is equally true of home-canned or home-bottled fruits, if they are properly put up. But since there is always some chance of spoilage, it is wise to observe carefully all precautions.

On March 4, 1927, the federal caustic poison act became a law. Briefly, this measure names twelve materials which are classified as dangerous caustic or corrosive substances. Most of these materials, such as ammonia and carbolic acid, are in common usage in every home, either in the pure form or as ingredients of other substances. The law states that these twelve materials, if shipped in interstate or import commerce, must be clearly labeled with the word "poison" and that the label must also carry tested antidotes, on the chance that some one might be poisoned from incautious use of the substances. The twelve chemicals required to be so labeled are hydrochloric, sulphuric, nitric, carbolic, oxalic, salt of oxalic, acetic and hypochlorous acids; sodium, potassium and ammonium hydroxides, and silver nitrate.

Household Articles May Contain Poison

Regulations as to ammonia do not include aromatic spirits of ammonia. The law requires any chemical combination containing more than 5 per cent ammonia to be labeled with the word "poison." In this respect the law needs strengthening, as a 3 or 4 per cent solution might prove decidedly dangerous if used carelessly. Injury growing out of indiscriminate use of sodium hydroxide, which is lye, was one of the things that prompted the passage of the law in 1927. Common household articles, such as kitchen or toilet drain cleaners, radio or automobile batteries, cleaning preparations for straw hats or clothes, caustic sticks and permanent wave solutions, frequently contain poisons, including ammonia, lye, sulphuric acid, oxalic acid, silver nitrate or some of the other chemicals included within the provisions of the law. Iodine is not included. Drain cleaners, ammonia solutions, silver polishes, chemical solutions designed for cleaning clothes, iodine, carbolic acid, insecticides and numerous other household or farm preparations, all valuable for certain uses, should be kept out of the reach of children and used with caution by all.

Century-Allen

Canning under steam pressure destroys bacteria.

Sex Education:

VIII

The Young Married Couple

By

THURMAN B. RICE

There is no more serious business in all the world than that of building a home and rearing children.

Photos by H. Armstrong Roberts.

HOME-MAKING is the biggest and by far the most important job in the world. Even from so material a standpoint as that of big business it is the largest economic factor in the world today. The investment in homes and furniture is a stupendous sum; and, as a matter of fact, nearly all investment is for the direct or indirect support of these homes. Staple articles are those that are used in the feeding, the clothing and the shelter of the family. Industry looks to the home for its labor supply, and commerce looks to the home for its market. Educationally the homes of the nation are more influential than all the schools together since it is now being said that a child is half educated before he starts to school, and even after he starts he spends a great deal more time at home than at school. Religiously the home is more potent as a means of turning the child toward good and away from evil than all the churches could be unless they had the help of the homes. From a health standpoint there is not the least doubt that the home is the center of the entire program. Culture, patriotism, habits of decency and respectability, industry, thrift, indeed everything that is worth while springs rather directly from this most basic of all institutions. If the home fails, everything fails.

The building of these homes is the task of young married people. It is they who make the world go around. Without them there would be no future. Theirs is a task for men and women of the pioneer type. They create; they build; they reproduce; they live. It is the period of young adult life toward which the rest of the world is looking forward or backward, as the case may be. "When I'm a man . . ." say the boy and the youth. "When the children were little . . ." say the middle aged and the elderly. To the shallow minded person it may seem that there is not much romance at the best in working hard, making sacrifices, paying the bills, saving every penny, scheming to get ahead and buying a home; under these conditions, life may seem monotonous drudgery, but for all that it is a period of accomplishment. To those who see it in its proper perspective it is a period of high adventure.

A Happy Honeymoon Builds a Firm Foundation

Between the period of love-making and the time when the young couple must settle down to the less romantic routine of everyday life there is a period which is commonly called the honeymoon. By this term is usually meant a more or less prolonged trip taken for the purpose of getting away from prying eyes. I am not using it in quite so narrow a sense. It is a period of adjustment to the new order of things and may be wisely or most unwisely spent. Not a few marriages are utterly wrecked during this time, and a great many others are so

strained as to weaken or damage the prospect of future happiness and usefulness. It is a time of high emotional tension, and it needs to be rather soberly planned. The obvious purpose of the honeymoon is to grant to the newly married lovers a degree of privacy while they are experimenting with the new status in which they find themselves. At such a time they are commonly permitted to give most of their attention to each other and are excused from other duties.

It is unfortunate that there have grown up so many ugly customs about so beautiful a ceremony as a wedding. Pranks without number are played. Many of these pranks are in exceedingly bad taste. The charivari, as it is commonly practiced in this country, is certainly no compliment to our state of civilization. It would seem that the young people might wish to be among friends at such a time, but experience has shown that strangers are more kind and considerate.

Elaborate Ceremonies Sometimes Spell Disaster

Wealthy families and would-be wealthy families are inclined to make a big event of weddings. There are parties, showers, receptions and elaborate ceremonies. Then, to top the drain on financial and physical resources, a long and tiresome honeymoon is planned. A trip to Europe or a tour around the world would seem to many an ideal wedding present, but it is entirely too long and tiresome. On such a trip the couple are thrown entirely too much in each other's company. The strain of travel and of sightseeing added to that of personal adjustment is entirely too much. It would be better if the trip were short and the demands lighter. A cabin in the woods, or a room in a summer or winter resort according to season, is likely to be much better. It is easy also for the couple to lose themselves in a large city where hotels give every degree of seclusion that may be desired and where the myriad diversions give opportunity for any sort of activity.

Families in moderate circumstances often exceed their means in attempting to give their young people an elaborate wedding and trip. The worry as to whether the funds will hold out until the safety of the home is reached, and the knowledge that the rocket-like celebration is soon going to end with a thud makes a bad start in life. It is better to have no honeymoon at all than to have one that cannot be afforded. The young people themselves rarely insist on a long and expensive trip. They know and others should know that the pleasure of each other's company is the important consideration and that it does not really matter so much where they are or how much money is spent.

After all, the most important relations of the period are those which are not really a part of the honeymoon itself. They are those which take place in the early weeks of married life. The success of the marriage depends more on the successful solution of these problems than on all the other difficulties put together. One can understand how a couple who continue to love and adore can meet poverty, hard work, ill health and the like with a brave smile, but one cannot believe that a couple may continue to live together in any sort of satisfactory relation when one or the other has reason to fear or doubt the other. Happiness and health may be seriously crippled by awkwardness or lack of understanding.

Every prospective bride and bridegroom should diligently seek to inform herself and himself on the subject of marriage. The process of courtship should continue until both are really ready for the marriage relation.

Excessive Modesty May Be Puerile

All or most of the difficulties can be avoided by a frank prenuptial understanding. The couple whose excessive modesty forbids the discussion of this subject had better grow up a bit, learn something about themselves and really fall in love before considering marriage. In times past there is reason to believe that such an understanding was often not attained. Indeed, this was considered to be the ideal condition, and mothers were not a little prone to boast that their daughters, and often sons, "knew absolutely nothing about such matters." No wonder so many marriages went on the rocks, emotionally at least, whether or not they ever reached the divorce court. Probably the only reason that so many escaped was that the young people were rarely as stupid as their fond mothers supposed. Nowadays, young people are much better prepared in this respect.

Unless the wife cooperates with the husband in balancing the budget and guarding expenses, disaster is ahead.

There are opportunities to learn from reliable and legitimate sources; there is a vocabulary in which one may decently speak to his or her prospective mate; there are books, pamphlets and lectures from which one may learn much, and in most instances there is the practice of those legitimate intimacies which are the proper prelude to marriage.

Sheer clothing, athletic uniforms and brief bathing suits have accustomed both sexes to the general appearance of the body of the other sex. It is to be hoped that this has helped greatly to temper the excessive embarrassment which in times past has reduced otherwise sensible young people to the state of giggling, gibbering idiocy. To one who stands in great reverence of the significance of the marriage relation it seems that a couple greatly in love with each other and entering into a lifelong relationship of the most profound importance and beauty might find an exquisite delight in coming frankly and gladly together. This is not the place for silly giggling; it is a time for dignity and that fine sense of self respect that is proud to proclaim to all the world that this man and this woman are taking their places in the long line of those who have lived and loved, who have nourished and cherished the spark of life that has come down without a break since the day of Creation.

Modern Marriage Should Set High Standard

Many people who should know better suppose that all these delicate relations can be entrusted entirely to the instincts and that for this reason there is no need to discuss them. Nothing could be further from the truth. Nature has furnished us with certain instincts, it is true, but they are the law of the jungle. It is these primitive instincts working in conventional civilized society as they would in the jungle that have caused so much trouble. Instinct utterly disregards anything except desire. As well go back to the practice of clubbing wives into unconsciousness and chaining them to the tent pole! Modern marriage is, or should be, on a higher plane. In no species other than man is the pleasure or welfare of the female given more consideration than is necessary to gain her physical acquiescence. Man is different. Perhaps it would be better to say, men—gentlemen—are different.

The young married couple have before them a task toward which they have a right to look with the keenest anticipation. With stout hearts and high resolve, with the idealism of youth and the abandon of lovers they are willing to face any difficulty if they are made of the stuff that has made this nation great. Love, industry, cooperation and health are the cornerstones. In the absence of any one of these, failure is certain. Both must love; both must work. The idea that men should not marry until they can support their wives in idleness is nonsense. Unless the wife is willing to cooperate with the husband and balance the household budget by holding expenses with a tight rein; unless the husband is willing to forego a great many personal pleasures and privileges; unless each fits into the conditions as they arise and does his or her part, disaster is just around the corner.

Much has been said about the advisability of the wife working after marriage. Until the couple is able to get a start, there can certainly be no objection if the wife holds her former job or if she obtains another one. It will mean extra hours of work and less leisure now that she has the care of a home or an apartment, but it is all for the good of the cause. It would be a poor wife, indeed, who would not put her shoulder to the family wheel and help to make it turn.

The Pay Check Brings Independence

Unfortunately, however, there is more to the matter than just that. It will be hard later for her to give up the outside job and devote herself exclusively to home-making with its comparatively intangible rewards. One need not be surprised that she is loathe to give up the independence that comes with a check at the end of the week. There are so many things that are needed and that can be had only if the wife as well as the husband earns.

So it is customary to put off, and put off, and put off the real purpose and culmination of marriage—children. If two have trouble making ends meet with two salaries, as two commonly do, how can three or four or five live on one salary? Years pass, and the couple are still in need of both paychecks. Educated tastes have been developed and seemingly must be pampered; children are forgotten or are pushed further and further into the future. Usually the couple say that "some day" they want children but that they hardly see how they can manage it just yet. Some day they are going to have beautiful blue-eyed boys and golden-haired girls, but when "some day" comes, Nature has become tired of being turned away, and the Gate of Life is forever closed.

It is hard to criticize the couple who gradually work their way into this predicament. Nothing could seem more logical than that they should have made the decisions as they did. It is the system that is at fault. Society as it exists in a civilized community puts a premium on the childless marriage. However, such a ménage is not really a home in the sense that I am using the term. After a generation of such homes there would be nothing. The error that young people are so likely to make is that parties, shows, elegant furniture and sport roadsters can bring more happiness than children. Once they have had the children they

will know that nothing can bring the soul-satisfying rapture that a baby brings; but, of course, they have not had such experience and quite naturally cannot appreciate it. Such marriages are easily broken. Without children, with little property investment as a rule, and with separate incomes, the slightest friction is likely to cause a serious split. It is an interesting fact that families in which the wife continues to work for years after marriage rarely become wealthy. If the husband had had to shoulder the responsibility of a growing family, he might have developed greater initiative and made more of his opportunities in the business world. Drifting along, though, with the help of the wife, he has taken it easy and arrived nowhere.

If the wife works, there should be a definite understanding concerning the time when she shall be promoted to the much more important work of real home-making. Marriages when both parties are poor but in good health and willing to work are frequently the best marriages. Stories told of the hard times that grandfather and grandmother had in the old days are familiar family lore and will be heard a century hence. One frequently sees the young wife working to help her husband complete his education, and it makes a most inspiring picture. Likewise, the wife may continue her education after marriage. These are the young people who know what an education is. They will get along.

Health Hazards Demand Careful Consideration

Health is of the utmost importance to the welfare of the home-builders. In the first place, only those who have health are fit to marry. It is foolish, indeed, for a young person to marry an invalid or a semiinvalid; it is highly romantic in some instances and highly idealistic, but nevertheless it is foolish. It is much like marrying a drunkard to reform him; it is better to reform him first. What could be more selfish than for a sick person to fasten himself or herself on another person and call it love? Marriage is a big job at the best. It is entirely too much for sick people. When sickness comes after marriage, as, of course, it is probable that it will eventually come, there is nothing that honor can condone except to see it through, but even so it may and often does utterly wreck the family.

There are several particular health hazards which must be considered by young people of the mating age. Tuberculosis finds in this age group its most susceptible victims. Occasionally bearing, nursing and caring for children undermines the health of the mother, particularly if the children are too close together in age. Hard work on the part of both parents in the years when they are so anxious to get a start, and extra jobs, few vacations, worry, and the tendency to seek to avoid the expense of doctor bills when there is real need for professional attention all take their toll. Nervous breakdown from over-work, pneumonia, organic heart disease, occupational diseases and other related conditions are rather prone to attack this group. Health is a matter of much more than personal concern; it involves the welfare of the entire family, and for that reason it deserves to be considered seriously in this place. Who has not heard his father and mother wondering, "What would become of us if one of us should get sick?"

Economic Security Needed for Family Welfare

In this place I need no more than mention the importance of a firm economic basis for so important an institution as the family. Unless there is a dependable income, unless the housewife and her husband know how to manage so as to keep within that income and have a little to spare for savings, there is trouble ahead. A savings account, a home, a few life insurance policies and other conservative investments are absolutely essential to the welfare of a home. It may seem a little strange that these should be mentioned in a discussion of sex education, but in the sense that I am using the term they are as much a part of the program of raising a family as is the incident which is commonly regarded as sex. Everything that helps young people to understand the problems of a family is in a very true sense sex education.

Particularly important is the matter of owning a home. There are, to be sure, families which are moving about *(Continued on page 182)*

The companionship and inspiration of a real mother and father are vitally important in the child's life.

A Nursery in a French Railway Station

The social assistant warms the milk, above, and takes it to baby the minute his train pulls into the station, as pictured below.

A trained nurse takes care of children in the pleasant playroom shown above, while their mothers are occupied with other matters.

Each mother has a booth like those shown at the left where she can feed and look after her baby.

Keystone

Before Baby Is Two

IV

Helping the Baby to Build Healthful Ways of Feeling

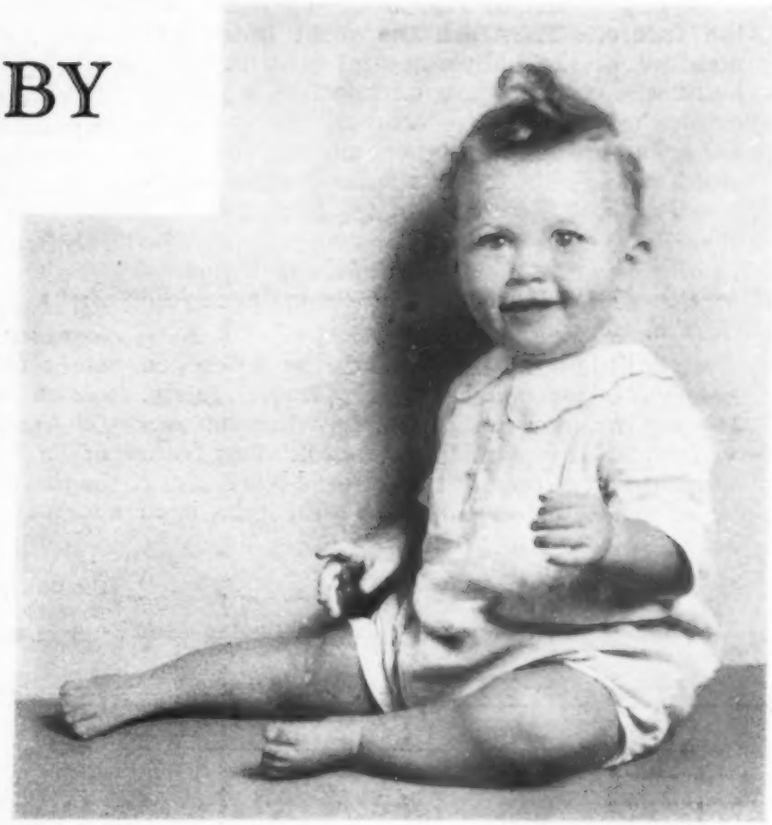


Photo by Bachrach

By KATHERINE BROWNELL OETTINGER

BEFORE baby is 2 he has learned many ways of feeling. Sometimes the ways he selects are even called patterns, because later he follows this behavior as he would follow a pattern. He tries one way, then another and finally chooses the way that makes it easiest for him to get along in this new strange world.
I. Baby cannot build healthful ways of feeling unless mother and father remember he is not a plaything.

The new baby is too likely to be a toy for adoring relatives. Everybody wants to pick him up, fondle and kiss him. Sometimes it is hard to make people give him the quiet, undisturbed peace he needs in these early days. Think of the easy training of the baby who spends his first days in the hospital. Whether he will become a fussy or a contented baby depends greatly on the family's behavior during his first two years.

II. Baby cannot build healthful ways of feeling if he is allowed to become a bald-headed king whose every whim rules the household.

Your baby finds before he is many days old that crying is his chief power. You may fear that crying will cause a rupture; some crying is good for the healthy baby. It gives him a chance to exercise and develop his lungs. The young baby may also stumble onto the trick of holding his breath. You need not be frightened when he does this, for nature would no more allow him to stop his breathing than it would allow his heart to stop beating. As soon as his lungs are really empty, his body will demand that they be filled again. If you let this stunt work once, baby is likely to use it again and again. The family which gives a young tyrant such things as pacifiers, feeds him at any hour, or rocks and cuddles him, in answer to these tricks, is getting him ready for an unhappy childhood.

III. The baby cannot build healthful ways of feeling if he lives in a topsy-turvy world.

You know how hard it is to face a feeling of insecurity from day to day. It is much harder for your little baby not to have regular rules on which to depend. A regular schedule for feeding, bathing and sleeping at the same time each day is the greatest kindness for your baby. It is surprising how safe and content a young baby feels in an orderly, properly managed home.

IV. The baby cannot build healthful ways of feeling if he is teased.

Brothers, sisters or even relatives too often enjoy this kind of fun. They love to offer baby something and keep it just out of his reach. They think it is funny to see baby red and striking out at them in his helpless way or bursting into angry tears. Your baby may think, after he has practiced this, that crying or striking is the only way of treating things he does not like. Children with nasty, surly dispositions often develop from babies who find this a fighting world where they must beat those giant grown-ups who tease.

V. Baby cannot build healthful ways of feeling if mother and father are too interested in show-off stunts.

Everyday habits of regular living build for the future. They are the most important measure of the baby's mental growth. The baby whose tricks you parade like a parrot or monkey learns false values! The show-off baby cannot help but become an unhappy child who fights to regain his happy baby-hood days of the center of the stage.

VI. Baby cannot build healthful ways of feeling if mother and father have not always been fair with him.

Even a little baby understands the difference between being fooled and being treated fairly. Do you wonder that he howls when he sees you dressed to go out, if you sneak away from him instead of openly saying good-bye? Your baby needs to have faith in you, if he is to learn to trust other people.

VII. Baby cannot learn healthful ways of feeling if mother and father are secretly proud that their baby "simply won't let any one else do a thing for him."

You may be happy at this sign of your "owning" the baby, but are you giving him a good start in a world of many and different people? An early start in getting used to changes avoids many unhappy childhood scenes when baby must be left in the care of other persons.

All baby's ways of acting or feeling added together make character or personality. Everybody talks a great deal about character but seems to believe it is something people choose for themselves as they grow older. These ways of building character clearly show that a good beginning is half the battle.

[NOTE.—In the March HYGEIA, Mrs. Oettinger's subject will be "Helping the Baby to Grow Up." "Seeing the unhappiness caused by persons who grow older but never grow up is warning enough," writes the author, "to start baby standing on his own sturdy feet."]

Washing

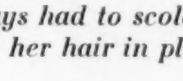
By

CHARLES S. WHITING

When sister was a little girl
She wouldn't wash her face.
They always had to scold her,
And put her hair in place.

But she was late for breakfast once,
And when they went to see
What kept her, she was washing
Just as busy as could be.

When they asked her why she did it,
She answered, oh, so meek,
That she had just washed seven times
To last her all the week.



Public Health Nursing in Industry

By VIOLET H. HODGSON

Timely information on dental care may be dispensed effectively by group talks, posters, literature and moving pictures.

PUBLIC HEALTH nursing in industry may or may not be analogous to "industrial nursing" as it is actually practiced at the present time. In fact, it is quite possible that a study of existing services would show that a large proportion of them do not include a sufficient number of the more generally accepted aspects of "public health" to justify their classification under public health nursing. Because of this variation and because of the wide range of activities and emphases implied in the two terms, it may not be amiss to consider a definition of public health nursing in industry that will help to differentiate it from the rather general term, industrial nursing.

In its broadest connotation, "public health nursing is an organized community service rendered by graduate nurses to the individual, family and community. This service includes the interpretation of medical, sanitary and social procedures for the correction of defects, the prevention of disease and the promotion of health, and may include skilled care of the sick in their homes." Every aspect of administrative and nursing procedures implied here applies with equal significance to the administration of a nursing service in any environment, whether it is the home, school or place of work. The resulting differences in nursing programs are due primarily to the situations encountered in the environments to which the service must be adapted. The basic units of society and, incidentally, of public health nursing are the individual and family; these remain constant factors in any nursing program irrespective of the environments in which that service may be rendered. The same fundamental principles of healthy living are basic determinants of the content of every health program, no matter how highly specialized that service may become. Light, ventilation, diet, conservation of body energy, prevention of disease and infection, healthful mental attitudes, emotional control, enriching human relationships and economic security are equally vital to the general health status of the members of the family while they are at work, in school or at home.

Fundamental, also, in any community nursing program is a provision for the needs of the sick

By listening to the "tale of woe" of the worker or foreman, the nurse gives a measure of emotional release.

and injured wherever they are found. The nature of the service will depend on the need and the particular environment in which the service is rendered. Obviously, the school and industry are not suitable environments in which to give bed care; nor, on the other hand, is the home the proper place in which to render first aid for the prevention of infections in injuries received in the school or factory. Consequently, it may be assumed that the threefold objective—the care of the sick and injured, the prevention of illness, and the promotion of health—is applicable with appropriate adaptations in all public health nursing services. More specifically, as applied to industry, public health nursing consists essentially of the application of nursing skills and procedures and the instruction in the fundamental principles of healthy living adapted to the needs of the worker.

In justice to any type of care of the sick or injured in industry, no matter how limited in scope, it must be said that the prevention of infection is an underlying purpose and that it places the activity in the field of health conservation. On the other hand there is such a marked difference between this limited preventive aspect, which underlies all nursing, and that which is paramount in the public health nursing field, that a more detailed analysis of activities is desirable if the place of public health nursing in industry is to be indicated specifically. It is essentially the content of the preventive or educational aspects of the service that differentiates public health nursing from other types of nursing in industry.

Since the major objectives of public health nursing apply equally to all services, what are the distinguishing features of an industrial health program that determine the potential place of the nurse?

In the first place, public health nursing would seem to have a place in industry by virtue of the fact that it is a community service. The control of such preventable diseases as tuberculosis, smallpox, typhoid, venereal diseases and pellagra is not possible unless control measures are extended to the large adult population in industry. Nor can it be expected that much headway will be made in retarding the onslaughts of the degenerative diseases unless the age groups in which these diseases occur receive proper guidance in hygienic living. True enough, this is largely a medical, sanitary and social program, but it is also the field in which the nurse can function most productively as interpreter of the various procedures involved in its effective realization.

It can further be maintained that industry itself is such an integral part of the community that whatever affects the welfare of one is reflected in the well being of the other. One need not limit this statement to the health of the workers; for there is abundant evidence at present, even though of a negative nature, to illustrate the more general interdependence and interrelatedness of industrial and community welfare.

A basic and major activity of any nursing service in industry is the care of the sick and injured. To maintain continuity of production, it is necessary to keep the workers on the job. Treatment of minor accidents and illnesses is one means of doing this by limiting lost time to the minimum required for treatment and by preventing infections which result in prolonged absences and the ensuing disruption of the production program. It must not be assumed, however, that such a service is exclusively a nursing activity. On the contrary, any intelligent care of the sick and injured necessitates making a diagnosis and prescribing treatment; and both of these activities are prerogatives of the physician. Carrying out the physician's orders, however, does come within the province of nursing; and when responsibility for the medical aspects of the service is assumed by a physician employed by industry, a number of activities can be delegated to the nurse that would not otherwise be possible.

The nurse also looks to the physician for guidance in the formulation of her health pro-

gram. The major features of this program should be determined by the physical examination, preemployment or periodic follow-up. Malnutrition, defective vision, diseased tonsils, defective teeth, emotional disturbances, faulty habits of personal hygiene, incipient organic diseases and other defects elicited by the examination suggest lines of procedure and points of emphasis for the program of correction. As interpreter of the physician's recommendations and as adviser to the worker in carrying out the recommendations the nurse will be expected to know all the health and social adjustment facilities available in the plant and community and to guide the worker to those most likely to meet his particular need.

Matters of more general significance than the specific needs of the individual worker also offer an attractive field for service. Timely information on preventive measures for such diseases as smallpox, typhoid, diphtheria and tuberculosis, on personal hygiene, dental care and the periodic medical examination may be dispensed effectively by the more general methods of group talks, posters, literature and moving pictures.

Another important field in industrial health in which the nurse has a place is that of safety and of accident prevention. Here, as in the medical field, the nurse is not expected to assume direct responsibility for the engineering aspects of a service for which she has no preparation. She is expected, however, to be sufficiently familiar with the mechanical and educational features of the program to assist in interpreting their function to the worker and to encourage him in their use. When the plant is without a director of safety or a full-time physician, the nurse can quite properly resort to the use of posters, slogans and other educational devices in stimulating interest in the reduction of accidents.

Accidents that are obviously the result of poor housekeeping should be brought to the attention of the management on which devolves the responsibility for instituting corrective measures. When the nurse is the only full-time worker in the medical department, the emphasis which she lays on this part of her weekly or monthly report can be instrumental in bringing about remedial changes.

The modern art of industrial relations has been defined as "the act of courteous, cooperative accommodation of interests between employers and employees with a view to the successful operation of the business in which they are concerned."

To say that nursing has no place in this field is to deny that nursing is first and foremost a service in which human relations play the most important part. To assume that any nurse will succeed solely because of her technical preparation is equally misleading. It is fatal to a nursing service in industry to give the impression that the motive of management in establishing the health service is either entirely altruistic or entirely selfish. On the contrary, like all other plant activities it should meet the test of good business methods and therefore be a cooperative process between workers and management.

The specific industrial relations activities which may be set up for the purpose of maintaining "cooperative accommodation of interests between employers and employees" are many and varied. Only a few of the more common ones will be mentioned to illustrate the place of the nurse in their administration.

Employment of new workers may not offer many opportunities for service if there is a full-time physician. If, however, the physician is employed only in a part-time capacity, the nurse may be expected to give a physical inspection of applicants in which such obvious abnormalities as defective teeth, vision and hearing, skin rashes and flatfoot can be detected.

The follow-up service of a mutual benefit association, with the exception of detection of malingering, may be the entire responsibility of the nurse. The objective of such a service is the early return of the worker to his job by assisting him to get satisfactory medical and nursing care in the home. Social and economic problems, so far as they interfere with the complete recovery of the worker, may need to be solved with the help of appropriate facilities in the plant and the community.

Management of the lunchroom is not a nursing function. It can, however, play an important part in the health program if food values and dietary habits are stressed in connection with the more prosaic process of serving "meat, gravy, potatoes and coffee." Advice on the display of foods and the strategic use of posters and slogans should be offered by the nurse in arousing interest in the health angle of food. The whole program of nutrition is further strengthened by emphasis on food habits in connection with the health department's medical and nursing supervision of the overweight or underweight worker.

Finally, unrelated though the activities of the production and health departments may seem, if the health department has no place in the production department, it has no place in industry, for production is the primary reason for the existence of the establishment. A function of the nurse is to facilitate production. This she does by enlisting the cooperation of the foremen in referring all injuries, however minor, to the first aid room for treatment; by avoiding all unnecessary delays in getting the worker back to his job; by preventing needless friction in the department through refraining from expressing opinions on the department's labor or personality problems; by listening to

the "tale of woe" of the worker or foreman, thereby giving a measure of emotional release, and by occasional visits in the plant in order to be better informed of work conditions and worker relationships.

Although this discussion is far from complete, it suggests the place of public health nursing in an industrial establishment. As the size of the plant increases, the job of the nurse may become more limited in scope. In the small establishment, as in rural nursing where social and health facilities are limited, a wider field of activity is presented. In all phases there is the opportunity to stress disease prevention and health preservation together with the administration of the curative aspects that lie within the field of nursing.

The exact extent to which public health nursing will claim its rightful place in industry will depend, as does visiting and school nursing, first, on the degree to which it can enlist the cooperation of industrial management in extending the community nursing program to the adult group of the population, and, second, on the measure of satisfaction derived by industry from the service rendered.

HEALTHGRAMS ✣ from Articles in This Issue

¶In the Spanish-American War, a single American division of 10,759 men had 4,442 cases of typhoid. In the World War when the United States had the largest army in the field in its history there were only 297 cases in the entire army for the year 1918. *See page 143*

¶The United States Public Health Service reports 612 outbreaks of communicable disease, traced to impure milk, between 1908 and 1927. More than 42,000 persons suffered in these epidemics, and more than 400 died. *See page 124*

¶Public health nursing in industry, like all other plant activities, should meet the test of good business methods and therefore be a cooperative process between workers and management. *See page 139*

¶Modern woman must realize that the skin is fed by only one means—the blood stream—and that it cannot be fed through the external surface with creams and lotions. *See page 159*

¶Baseball is a highly scientific game; the mere throwing of a ball, which may look easy, requires the use of at least 400 of the 696 muscles in the body. *See page 121*

¶If the wife works, there should be a definite understanding concerning the time when she shall be promoted to the much more important work of real home-making. *See page 132*

¶Prevention is the byword of dentistry today, and only through regular visits to the dentist can the health of the mouth be maintained. *See page 157*

¶Obesity in children is seldom a serious condition and ordinarily is corrected by a restricted diet and regularity of exercise. *See page 118*

¶Every twenty-six minutes some one in the United States dies of appendicitis. Laxatives and delay in entering the hospital are responsible for 18,000 of the 20,000 appendicitis deaths occurring each year in this country. *See page 115*

¶Investigations by federal authorities show that almost invariably cases of illness or death from botulism are due to the consumption of food that is improperly or carelessly canned or handled in the home. *See page 129*

¶During Colonial days, Washington was so oppressed by illness that he once determined to give up all hope of being able to continue a military life and more than once he even gave up all hope of living. *See page 106*

¶When properly prepared and judiciously eaten, fried foods are appetizing and wholesome, and should not cause any difficulty for a normal digestive system. *See page 145*

¶Vitamin assay demonstrated that about 1.5 Gm. of a certain canned grapefruit was needed daily to equal the vitamin C content of 2.5 Gm. of fresh fruit. *See page 148*

¶You know how hard it is to face a feeling of insecurity from day to day. It is much harder for baby not to have regular rules on which to depend. *See page 137*

¶Each year for the past two decades cardiac disease has occupied first place as the principal cause of death in the United States. *See page 110*

¶Among the Persians, when a patient dies under treatment, the doctor not only loses his fee but incurs blame. *See page 153*

¶Monkeys' tails are the endings of their backbones. *See page 162*

The Conquest of Typhoid

Armies on campaign cannot always choose their sources of water supply.

TYPHOID and its close relatives, the paratyphoid fevers, are all but conquered. This victory represents one of the greatest achievements of medicine. Like most great achievements, it is the result of the work of many persons. In 1837 an American physician, Dr. William Wood Gerhard of Philadelphia, first clearly distinguished between typhoid and typhus fever. Louis Pasteur first taught that certain diseases are caused by germs. His work led to innumerable researches by many persons, and in 1880 Carl Joseph Eberth of Halle, Prussia, discovered the typhoid bacillus. Several later workers after 1896 separated a number of closely related germs now known as various types of paratyphoid bacilli.

Soon after the discovery of the typhoid germ it was learned that typhoid is contracted only by swallowing the bacilli; sources of infection were found in contaminated water and milk supplies, in foods that had come in contact with contaminated water, and in material infected by flies which mechanically carry the germs from infected discharges. These facts were largely responsible for the development of modern systems of sanitation, including carefully guarded water supplies, dairy inspection and antifly campaigns. The results of such work were remarkable. In Hamburg, Germany, from 1885 to 1888 there were 15,804 cases of typhoid. The neighboring city of Wandsbeck, with a separate water supply, was almost free from the disease. In Paris, the 1882 death rate from typhoid was 142 per hundred thousand of population. In 1902, with a better water supply, it was 17 per hundred thousand.

Some time later it became recognized that certain persons might harbor dangerous typhoid germs indefinitely without being sick. Such persons are known as "typhoid carriers." Most carriers have had the disease and recovered but continue to discharge the germs in the excreta. In a famous case, a cook was found to be a carrier, and it was learned that she had infected no less than seven households in five years' time. Methods now in use for detecting and treating carriers greatly reduce this menace.

Gradually the installation of modern methods of sanitation brought about the control of typhoid in the cities; but the country districts and small cities still suffered from its ravages. Great sanitary engineering projects are too costly to be practicable in such localities, and many persons will not do the work necessary for the proper protection of individual water supplies, such as wells and springs.

Moreover, typhoid remained a fearful scourge of war. Armies on campaign cannot always choose their sources of water supply. Fortunately, however, another epoch-making discovery soon overcame this seemingly insurmountable difficulty. In 1896, Sir Almroth Wright of the British Army Medical Corps first

By FREDERICK R. TAYLOR

used typhoid vaccine. The early vaccine was relatively inefficient; but a better vaccine was rapidly developed, including the addition of factors protecting against paratyphoid fevers, and the results have been excellent. In the Boer War, before typhoid vaccination the English army numbered 380,605 men and suffered 57,684 cases of typhoid! In the World War, with several million men in the field, England had 1,501 cases in her army, 993 of these being in unvaccinated men, in many of whom the disease was developing when they entered the army. In the Spanish-American War a single American division of 10,759 men had 4,422 cases of typhoid! During the fiscal year ending June 30, 1918, near the close of the World War when the United States had the largest number of soldiers in the field in her history up to that time, there were 297 cases of typhoid in the entire American Army. I was in a number of large base hospitals during the World War and worked largely with epidemic diseases, but I did not see a single case of typhoid.

Protection against typhoid has now become only a little short of 100 per cent efficient. When one reads that fifteen or twenty years ago almost every doctor practicing general medicine found the care of typhoid patients his chief occupation in the late summer and early fall and that now the disease is becoming a medical curiosity in urban practice at least, one realizes that the victory over typhoid is in truth almost accomplished, that thousands of lives have been saved and that incalculable economic loss has been prevented.

The time has arrived when the incidence of typhoid is an index of the intelligence and character of a community in health matters, for if every one would fully avail himself of the preventive measures at hand, it is probable that typhoid could almost be wiped off the face of the earth in a single generation. Only ignorance or neglect can prevent the realization of this great ideal. The attitude and, above all, the example of every person helps or hinders the cause.

Solving Rural School Sanitation Problems

WITH THE public school system playing an important part in the lives of every one, instruction in the proper method of living should emanate from every school as a part of its curriculum. The school building and grounds should set an example in sanitation.

Several important features of sanitation that are often neglected in rural schools are discussed with these points in mind in *Health Briefs* of the Tennessee department of public health.

The construction of a properly designed privy is described as effective against dangerous germs, which may be carried from wastes by flies to food or drinking water, washed into drinking water by rains, brought into contact with children playing, and scattered by animals or other means. Maintenance is almost as important as the construction of a satisfactory privy, and daily sweepings by the janitor are as much a part of his duty as sweeping the school building. Necessary repairs should be made without delay.

As the majority of rural schools depend on wells for their water supply, care should be taken that the well is deep and is adequately cased to prevent seepage. If it is necessary to use a spring as a source of water, the spring itself should be protected from surface drainage. Cisterns are sometimes used for a water supply, and directions for their proper construction are also given in the article. Regardless of the type, the water supply should be located on the grounds to assure an adequate supply at all times.

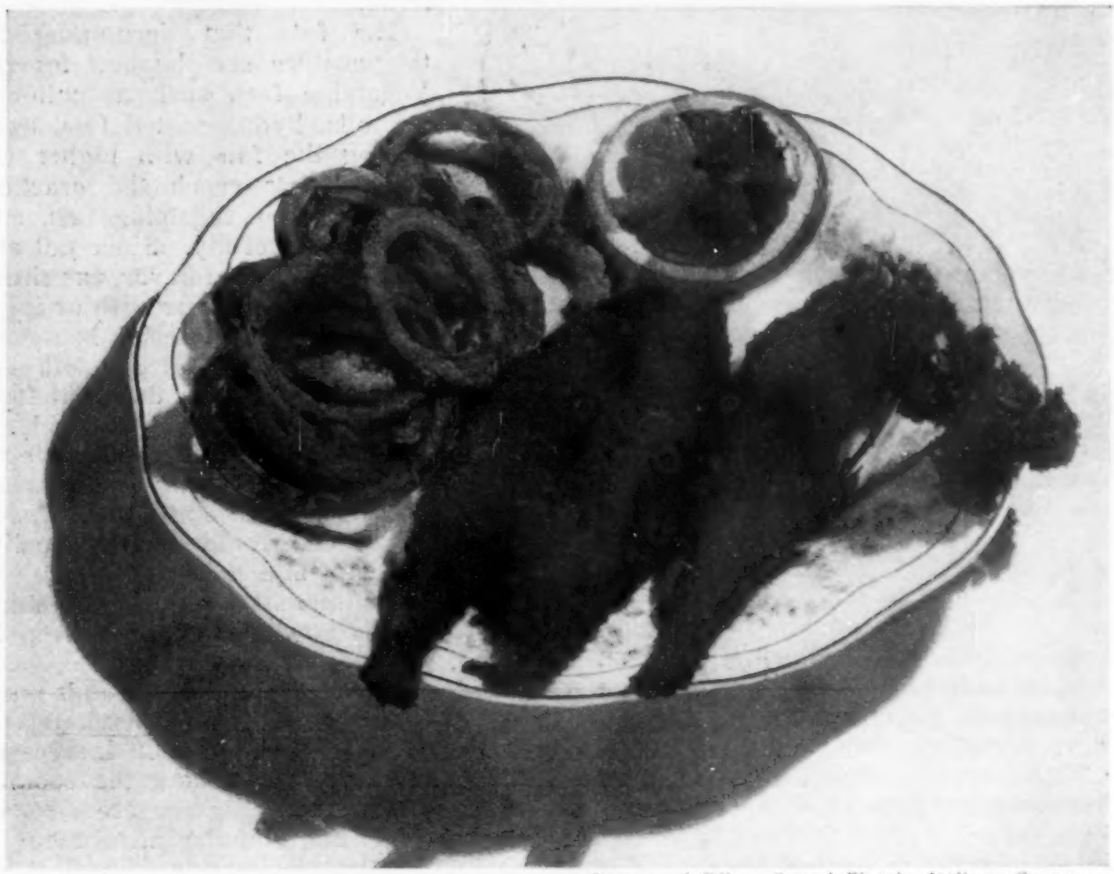
Satisfactory drinking devices have always been a problem of the rural school. A simple, sanitary and practical device is suggested for use with a pump. This consists of attaching to the spout of the pump a pipe pierced with small holes which serve as jets from which the children may drink. A trough carries away the waste water. As it is necessary for one person to operate the pump, this plan has the advantage that drinking may be supervised by the teacher, a point which is too often overlooked.

A jet device may also be constructed so as to allow hand washing, a facility which it is often difficult to provide satisfactorily. The common washpan and towel are discarded for the same reason as the common drinking cup. The jet device, however, eliminates contact of the hands with any object; paper towels should be furnished if possible or the drying should be accomplished by swinging the hands in the air.

The prevention of dust through proper care of the floors and the freedom of the school grounds from trash and garbage are also parts of the rural school sanitation problem.

An understanding must be reached so that the teacher may secure the cooperation of the children to insure the accomplishment of a constructive program of sanitation. An effort should be made to make the children feel their responsibility and take a pride in accomplishment and in the appearance of their school.

The Fried Food Phobia



Courtesy of Edison General Electric Appliance Company

Fried smelts with French fried onions may be both tempting and wholesome.

By LULU G. GRAVES

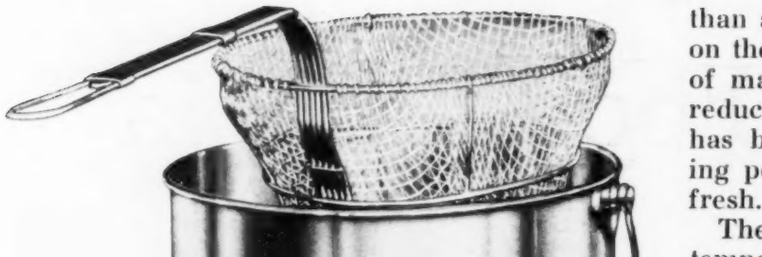
SHEILA HIBBEN in "The National Cook Book" has risen to the defense of American cookery. She ably and convincingly proves that European countries do not hold a monopoly on good cooking. I heartily agree with Mrs. Hibben.

As a rule the American woman roasts, bakes and boils with superb confidence in the results she will produce, and the consumer exhibits in the most practical way that he, too, has confidence in her achievement. But when occasionally the appetite craves genuine fried chicken or true fried potatoes, few are the experts who can satisfy that craving. Most persons are fond of crispy brown doughnuts and fritters, French fried potatoes and potato chips, sautéd slices of apple or pineapple with a roast, delicately browned fried oysters or codfish balls.

Fried foods have acquired the reputation of being hard to digest. Normally, fat is not difficult to digest, but being a concentrated food material it requires more time for the process. Consequently all foods high in fat call for discretion in their use. Eating too large quantities at one time or eating them too frequently may tax the powers of digestion; foods that are covered with fat in the cooking process belong in the same category. The stigma attached to fried foods is due largely to careless and improper methods of frying or to imprudent habits of eating.

There are two types of frying: sautéing, which is cooking in a shallow pan with a small amount of fat, and deep fat frying, or French frying by immersing food in a deep kettle with enough fat to keep the food afloat. Many foods may be cooked by either method, but such foods as hash, eggs and bacon are sautéd. Fritters, croquettes, fish cakes and similar foods are better fried in deep fat, as this method gives them a more pleasing appearance and they are less likely to become soaked with grease.

Successful deep fat frying depends largely on three principal points: the kind of fat, the temperature of the fat and the preparation of



Courtesy of Edison General Electric Appliance Company

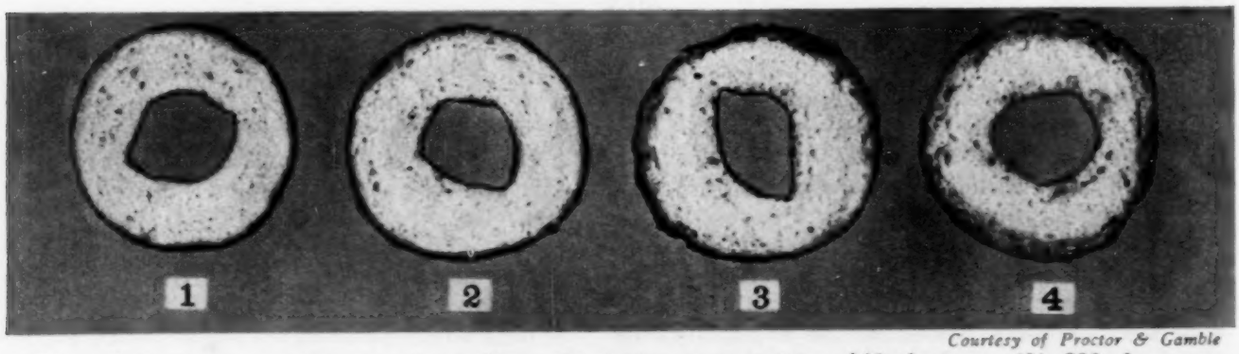
The electric frying kettle for home cooking has a thermometer attachment, a control switch and a gadget to hold the frying basket.

the food to be fried. For most purposes the fat should be neutral in flavor and odor and should be kept hot enough to form quickly a crisp coating of the outer surface of the food. This crust prevents the fat from reaching the inner part; otherwise the food will be greasy and soggy.

When fat is heated to a high temperature some decomposition takes place. This is known as the "cracking point" of fat, and it is indicated by the formation of an acrid smoke, which is irritating to the nose and throat. The factors that are irritating to the throat are probably also irritating to the digestive tract. As these elements are formed, they hasten further decomposition of the fat. In frying, therefore, the longer the fat is used after the smoking begins, the more objectionable it is. Several factors influence the temperature of the fat. A shallow, flaring kettle exposing more surface than a deep kettle with straight sides, moisture on the surface of the food, and large quantities of material in the fat at one time all tend to reduce the temperature of the fat. A fat that has been used repeatedly has a lower cracking point than that which it had when it was fresh.

The fats that decompose at the highest temperature are the best for frying purposes. Vegetable fats, such as cottonseed, corn and nut oils, hydrogenated fats, and leaf lard are among the fats with higher cracking points. Animal fats reach the cracking point more quickly than vegetable fats, so lard must be watched carefully. Since not all these fats are of neutral flavor, one should know which will combine with or improve the flavor of the material being cooked. Butter and olive oil of good grade are too expensive for use in deep fat frying, and a low grade olive oil is not desirable. Butter may be used in sautéing if the cooking is done at low temperature. Many cooks wait for butter to smoke before adding the food. The proper procedure would be to discard the smoking fat and not add the food to it.

Equipment which greatly simplifies the process is now available for deep fat frying. For cooking in large quantities, vessels are so constructed that different foods may be fried in the same fat with no interchange of flavor, while mechanical regulation insures the correct temperature throughout the cooking period. For home cooking there are electric frying kettles with thermometer attachment which indicates the temperature, a control switch which turns off the current before the fat becomes overheated, and a gadget to hold the frying basket. These elaborate devices are conveniences and not necessities, for an ordinary saucepan will serve the purpose. A better choice is a heavy iron kettle with a flat bottom which rests firmly on the stove; the heavy metal retains heat better and helps to keep the fat at an even temperature. A frying basket is an advantage in that the food can be lowered slowly into the fat, thereby preventing too much bubbling or boiling over. In removing the cooked food, all is



Courtesy of Proctor & Gamble

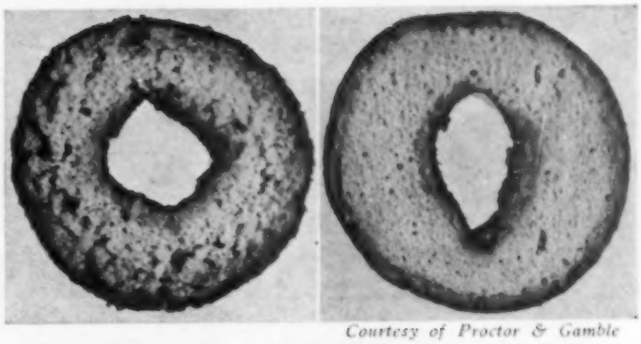
The effect of temperature on absorption: (1) frying temperature, 410 degrees; (2) 390 degrees; (3) 375 degrees; (4) 350 degrees.

taken out at once, which helps to secure a more uniform product than when it is removed piece by piece. Nevertheless, a long-handled skimmer or fork or a wire spoon serves well.

For those foods which contain little protein or for some other reason do not brown readily, a batter of milk, eggs and flour or a coating of eggs and crumbs will help. For soft mixtures, croquettes and similar foods, this coating is an aid to keeping them in shape, but care must be taken not to make them too stiff. If the croquette does melt a little on the plate, the hostess need not be dismayed, as she may be sure it will also melt in the mouth.

As a substitute for a frying thermometer, a bread test can be made which is fairly accurate. For uncooked foods such as oysters, and thinly sliced onions, potatoes and apples, a small cube of bread dropped into the fat should become a light brown color in from thirty to forty seconds; for cooked foods, a mixture such as fish cakes and croquettes, and for French fried potatoes, the cube of bread should brown in from forty to fifty seconds; for doughnuts and fritters it should brown in sixty seconds. To obtain the best results, only small quantities of food should be fried at one time; in this way one avoids the danger of cooling the fat too much or of causing it to boil over, and the food is more easily removed when cooked.

Raw vegetables, oysters or similar foods should be wiped dry with a soft cloth or well drained on absorbent paper before being put into the fat; croquettes, fish balls and other moist mixtures may be made and allowed to stand an hour or longer before frying. If too much moisture is left on the surface, the food will not brown well. Pieces should be of uniform size to insure uniform results in the finished product.

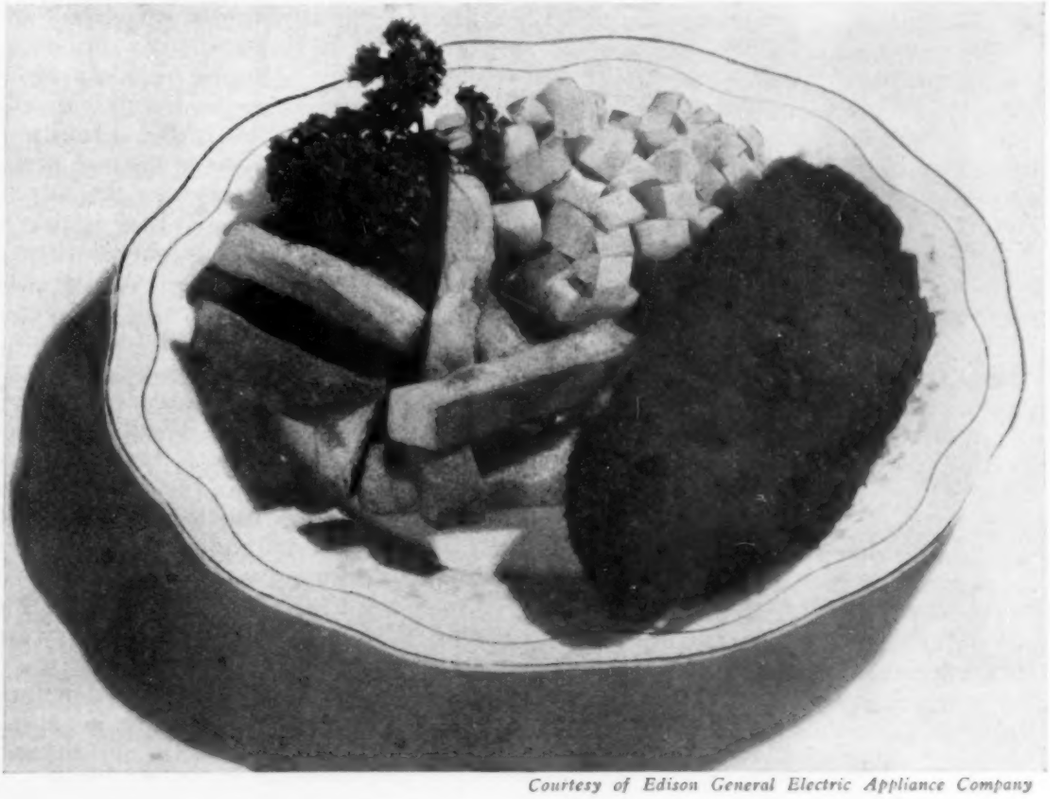


Courtesy of Proctor & Gamble

Coarse-grained doughnuts result from poor mixing, while fine-grained doughnuts may be had with proper mixing.

Foods should be drained on absorbent paper as soon as they are taken from the kettle. A pan or tray lined with crêpe paper napkins or toweling is convenient for this process; common brown paper or, in fact, any plain paper not glazed or waxed may be used.

The popular feeling against fried foods as a whole is unwarranted. Care or the lack of it with any method of cooking contributes to the improvement or the spoiling of the finished product. Fried foods are no exception to this rule. When properly prepared and judiciously eaten, they are appetizing and wholesome, and should not cause any difficulty for a normal digestive system. When these precautions are not observed, fried foods should not be eaten by any one.



Veal cutlets and French fried potatoes illustrate the two types of frying—sautéing and deep fat frying.

Courtesy of Edison General Electric Appliance Company

A Housewife Looks at the Committee on Foods

By Doris W. McCray

V. Committee Acceptance of Canned Fruit

THE work of the Committee on Foods of the American Medical Association is done in a thorough, careful manner, and the Committee's decisions are consistent with the high ideals and integrity of the American Medical Association. The Seal of Acceptance on a can, package or carton gives the assurance that the food product has met the rigid requirements made by the Association. The physicians of this country are behind this movement to set up high standards of quality in food, so far as quality affects health; to demand that all foods shall be advertised honestly, and to put off the market those foods which are fraudulent, unclean or dishonestly represented.

Housewives have learned to look for brand names as a means of identifying good foods. Many manufacturers and distributers have worked to establish their brand names as synonymous with a definite quality.

The Seal of Acceptance is a mark of merit which may be obtained for any canned fruit which meets certain requirements. The Seal of Acceptance has a cogent meaning to me and to many other housewives, for it affords a feeling of assurance that the fruit within the can is a suitable food for our families.

The Seal of Acceptance is not given in a perfunctory manner. Proof must be submitted that a food is worthy of such an honor. The information, material and samples that arrive from the manufacturer are received in the office of the secretary of the Committee, and if any necessary material or information is missing, the manufacturer is advised of this deficiency in order that he may supply the material to the Committee. When all the required material is in the office, the secretary checks through it and sends it to one member of the Committee who is named as a referee because of his ready familiarity with up-to-date information on the special subject under consideration. He goes through the material carefully, questioning anything which seems objectionable, and prepares a prospectus on the whole issue of the food which is being submitted. The referee is extremely thorough in his treatment. His report, together with comments from the secretary and one copy of every piece of advertising matter, one copy of each kind of label and a sample of the food being considered, is sent to each member of the Committee. If any Committee member finds any objections to the product, after giving it careful consideration, these objections are referred to the secretary of the Committee and to the other members of the Committee. When every point has been considered, there is a ballot for acceptance or rejection. In case the product is accepted, notice of the acceptance is sent to the manufacturer, and permission is granted to use the Seal of Acceptance on the container and in advertising matter. Permission to advertise in *The Journal of the American Medical Association* and in HYGEIA is also given.

Flagrant violations of good advertising and manufacturing practices, related to food products, if sufficiently important from the standpoint of public health, may be investigated by the Committee on Foods. If, after his attention has been called to these faulty practices, the manufacturer fails to correct such practices, they may be brought before the attention of the consuming public. When such reports of the Committee are published for the benefit of the public, they may have considerable personal value to the housewife who buys, cooks and serves food. The majority of food manufacturers, however, have a much higher standard of cleanliness than the average housewife, because cleanliness and purity mean freedom from spoilage and consequent losses. When there is only a small margin of profit to be gained, every detail of manufacture must be checked for economy. The sanitary code of the National Canners Association gives very definite rules governing canneries; this organization includes the majority of canners of this country and sponsors research in canning methods.

In the future, in order that the Committee may keep a check on its accepted foods and thereby better protect the public and assure the observ-

ance of the Committee's rules, the sponsors of accepted foods will be required to send to the office of the Committee one proof of all proposed new advertising leaflets, booklets, newspaper and magazine advertisements, radio statements, billboard and window displays and the like. The Committee must be advised of any changes in composition of the product or the process of manufacture, or of any other changes which are made subsequent to announcement of acceptance. New types of claims must be passed on by the Committee. Proof of new labels must be submitted to the office of the Committee before being used. A check-up is made to see that these rules are followed; otherwise it would be possible for a manufacturer, if he were unscrupulous, to obtain the Seal of Acceptance and then make changes which would not be acceptable to the Committee. In some cases, acceptance has been withdrawn, usually because claims were incorrect rather than because the product itself had been changed.

The Committee requires special information which will furnish assurance that the preparation and processing of canned fruit is as efficient as possible for the protection of the natural vitamin values. If vitamin claims are made for the canned fruit, vitamin assay may be required. The fruits must be canned immediately after harvesting, since long storage periods have proved to be destructive to vitamin C because of oxidation resulting from exposure to the air. Vitamins A and B are less easily affected. Vitamin C is harmed by oxidation rather than by heat. Cooking in the absence of air, which is exhausted from the cans before they are covered, preserves the vitamins in greater degree than do home canning methods in glass jars, which do not require exhausting of the air from the jars. The partial vacuum created in commercial cans is characterized by the slightly concave ends. Bulged ends indicate spoilage except in cases in which the pressure is so slight that the ends of the can may be easily pressed in by the fingers. Properly canned foods, however, may be an excellent source of nutrition. Experimental animals subsisting entirely on a diet of canned foods have enjoyed health and reared healthy families of young animals through seven generations.

The Committee requires information on the steps taken to remove any arsenical spray material from the fruits used in the canned products. A diluted acid wash is now customary for removal of spray materials before canning.

The chief value of fruits lies in their ash or mineral content, their vitamins, their slightly laxative effect and their characteristic of creating an end-product which is alkaline and helps to maintain the blood and entire body in its normal state of slight alkalinity. Vegetables and milk also furnish alkaline ash.

In recent experiments made under the supervision of nutrition experts, it was found that apples held in cold storage from October to April lost half of their vitamin C content. Apples canned in October had the same vitamin content when they were examined in April as they had when they were canned; the vitamin content approximated that of the apples as gathered from the orchard and was greater than that of the stored apples. No loss of vitamin content was demonstrated within the tightly sealed can within a period of at least three years.

Research in food problems has shown that if apples are baked or made into sauce and then canned by the housewife, the antiscorbutic vitamin C is practically destroyed. If, however, the apples are submerged in a weak salt solution to allow them by the activity of their respiratory process to consume all the oxygen in their tissues, they may be canned without appreciable loss of vitamin C.

A delicious apple sauce, bearing the Seal of Acceptance of the Committee on Foods of the American Medical Association, is packed in New York State. The principal varieties of apples used are Greenings, Twenty Ounce and Baldwins, which are all hand picked when they have reached the proper degree of ripeness. Color, texture, sugar content and appearance of the apple sauce are uniformly maintained, and the product has a delicious flavor. The apples are carefully washed on roller conveyors with

This well stocked cupboard contains cans of pineapple, apple sauce and grapefruit, all bearing the Seal of Acceptance.

Fruits are canned in tins of various sizes to meet various needs.

water sprays and are peeled and cored by machine. All blemishes and defects are cut out on trimming tables. The apples are emptied into a tank of salt water to prevent discoloration. After the salt bath they are again inspected on a roller conveyor, washed by water sprays, sliced by machine and cooked in an "apple sauce cooker" with the addition of water and sugar. The patents on the continuous method of cooking apple sauce are owned and controlled by the manufacturer. The cooked apples are pulped, and seeds and harsh fibrous parts are removed. The apple sauce is automatically packed into cans or jars which are sealed, processed under pressure and immediately cooled. This slightly sweetened apple sauce furnishes 1 calorie per gram, or 28 calories an ounce.

A commercial brand of cut orange slices, sweetened with sugar and canned in Florida, was accepted by the Committee on Foods. Vitamin assay demonstrated that from 1.3 to 1.5 Gm. daily was the minimum protective dose against scurvy for a guinea-pig weighing 300 Gm., as compared to the minimum (2 Gm.) protective dose of the juice of fresh oranges on the northern market. This is rather amazing to those of us who formerly thought of canned foods as being always a second choice to fresh fruits. These canned, sweetened, sliced oranges retain practically all the nutritional values of the natural fresh fruit and are intended for all dietary and table uses of oranges. They are ready to serve direct from the can, with no waste, a convenience which canned fruit always offers.

A brand of fancy cut Florida grapefruit slices is packed into cans; sugar syrup is added, and most of the air is exhausted from the open cans. The cans are then sealed, heated for fifteen minutes, cooled and labeled, the label bearing the Seal of Acceptance. Vitamin assay demonstrated that about 1.5 Gm. of this canned grapefruit was needed daily to equal the vitamin C content in 2.5 Gm. of fresh fruit. Mixed canned grapefruit and orange slices are colorful and delicious.

A brand of canned segments of fully ripened Florida grapefruit which was found acceptable to the Committee on Foods bears the claim that the canned grapefruit is sterile, as determined by nutrient agar plate tests incubated at 37 C. for two days; in other words, the grapefruit was subjected to the development of bacteria in a most favorable medium, protected from dust or contamination, and no bacteria developed. In order that such a claim shall be allowed by the Committee, it must be proved to be a fact. This grapefruit was shown to be an excellent source of vitamin C, only slightly less potent than the original raw fruit used. The fruit is canned as picked and is not held in storage. A delightful flavor is thus developed by the selection of fully tree-ripened fruit which does not contain any excess bitterness and which is entirely free from the white membrane. Can sizes are 8 ounces and 1 pound, 4 ounces, and for hospitals and restaurants, 3 pounds, 11 ounces.

If you have had the experience of eating canned grapefruit which was bitter and disagreeable, try another brand; the first time that I tasted a fine quality canned grapefruit, I was amazed at the delicacy of the flavor and the texture.

Dr. E. O. Jordan, professor of bacteriology of the University of Chicago and a member of the Committee on Foods, says, "The process of preserving food by heat possesses the enormous advantage that the vast majority of known disease germs are killed by even a few minutes' exposure to the temperature of boiling. The use of cooked food, therefore, constitutes one of our greatest safeguards against entrance of disease germs and other parasites through the mouth."

Pineapple is a fruit that develops a much finer flavor when it is ripened under sunny skies in its native country than it does when it is picked green and shipped. In canning pineapple, approximately two minutes is required to prepare the raw pineapple for cooking within the sealed can, and approximately thirteen minutes is required for cooking. Elaborate equipment which will speed the canning process in this manner is necessary because of the fact

that fully ripe pineapple is easily bruised and damaged; it must be taken immediately from the field and handled with facility and speed in order that a fine-flavored product may be obtained.

Biologic assays of the brands of accepted pineapple show that canned pineapple is a good source of vitamins A, B and C, and that it is practically equivalent to the fresh fruit in nutritive value and in vitamins A and B but slightly inferior in vitamin C. The special "vacuum" packing of the accepted brands causes the natural pineapple flavor to be retained. No solder is used to close the cans, but they are automatically closed in a "vacuum" closing machine. Crushed pineapple is not vacuum packed.

A number of brands, for which the pineapple is procured from the same Hawaiian pineapple company, are identified by the name of the manufacturer; below the name are the figures, 1, 2 or 3, indicating the grade of pineapple which the can contains. Grade 1 contains slices which are the pick of the crop, uniform in size and color and put up in a rich syrup of pure pineapple juice and cane sugar. Matched in color and perfect in shape, these slices are the finest in appearance and may be used for salads or served alone without other fruit or garnish. In this grade the tidbits consist of the same quality of pineapple slices, cut into small uniform sections and canned in the same rich syrup. Crushed pineapple is convenient for serving alone in a sauce dish or for combining with other materials in an ice cream, pudding or pie. A rich syrup is used in canning the finest grade.

Grade 2 comes sliced, crushed or in tidbits; but the pineapple is less even in shape and less uniform in color, the edges may be cut a bit unevenly, and the syrup is less rich in sugar. Grade 3 contains broken slices packed in the same syrup as that used in Grade 2. The fruit is less perfect, yet it is wholesome and of good quality. The various grades of pineapple are equal in nutritional value.

The pineapple is cut by the machines which remove the outer portion and the core. The smallest can, a 9 ounce tin, contains five slices which are 3⅛ inches in diameter and 5/16 inch thick. The next size, which weighs 14 ounces, contains four slices, 3¾ inches in diameter and ½ inch thick. The tall can, in the same weight, contains nine slices which are 2¾ inches in diameter and ⅜ inch thick. The number 2 can, weighing 1 pound, 4 ounces, contains ten slices which are 3⅛ inches across and ⅜ inch thick. The can that weighs 1 pound, 14 ounces, contains eight slices which are 3¾ inches in diameter and ½ inch thick.

The marking of cans according to grade is particularly valuable to the housewife for, while it has long been the custom to grade fruit at the cannery in order that the wholesale distributer may buy intelligently, that information was not passed on to the housewife by the grocer. Pineapple canners certainly took a step in the right direction when they labeled their various grades, and I hope that other canners will follow the same plan of identifying their cans so that I may know, when I go to the store, exactly what I am buying, especially if I choose a fruit so infrequently used that it is hard to remember my favorite kind. For instance, two different grades are packed by one cannery under the same brand name in such a manner that one cannot always be sure of getting the same quality; however, most canners have used some means by which the grocer can identify the different grades. Fruit is commonly graded as fancy, choice, and standard, and definite qualities for these classifications have been set up by the canners themselves.

A recent amendment to the pure food law enables the Secretary of Agriculture to set up standards of quality and quantity of containers; cans of fruit falling below the standard must be plainly marked, "Below U. S. standard. Low quality but not illegal." These standards have been set up for canned peaches, pears, peas, apricots and cherries. Eventually all foods will be included in the list, but it will be necessary first to devise definite measurements for the quality of all foods in order to determine absolutely when food is below standard, and that standard must depend on mechanical measurement rather than on human judging of the product. According to the pure food law a food

Fruits are more palatable after they have been chilled in the refrigerator.

product must be wholesome; it must not contain putrid or decayed food. The regulations of the Department of Agriculture under the Food Act oppose the addition of preservatives which may be injurious to health and of any uncertified colors. The net contents of the package must also be declared. In order to be acceptable to the Committee on Foods, canned fruit must meet all these federal food regulations as well as the independent requirements of the Committee.

Canned fruit should be stored at the lowest possible temperature above freezing. The temperature should be fairly constant in order to prevent sudden changes, with a consequent condensation of moisture which will cause the outside of the can to rust. The storage room should be dry. Ordinarily the hot summer kitchen does not cause damage to commercially canned fruit, but a cool storage room should be selected if possible.

Be sure that you have a good can opener in your kitchen; it should work easily and leave the rim of the can smooth so that it will not cut the fingers. The food may be left in the can, provided the can is immediately refrigerated. There is danger in an uncovered can which remains on the kitchen table so that food is exposed to dust and flies. It is a much neater practice to empty the contents into a regular refrigerator dish, cover immediately and place in the refrigerator. The tin itself does not contaminate the food, but a can in the refrigerator is quite as untidy as a paper sack in the cupboard where neat, closed containers, such as glass fruit jars, are the best rule.

Canned fruit is far more delicious when it is served thoroughly chilled. A few cans kept in the refrigerator are valuable in case of unexpected company. The better grades of canned fruits are suitable to serve without garnish. Make sure that all the cans used are filled with wholesome, clean, good food. The Seal of Acceptance of the American Medical Association brings the assurance that the food has the desired nutritional values and that the statements made on the labels and in the advertising are authenticated claims.

[NOTE.—In the March HYGEIA, Mrs. McCray will discuss whole wheat flours. Lists of the accepted foods discussed each month will be sent on receipt of a stamped, self addressed envelop.]

FORECAST FOR MARCH

As *Katherine Brownell Oettinger* concludes her series, "Before Baby Is Two," with an article on helping the baby to grow up, *Dr. E. S. Rademacher* begins a series of four articles on child psychology and parent training, in which he discusses problems that arise in every household. The first article deals with commonplace errors in everyday discipline. "Daddies, like doctors," writes Dr. Rademacher, "seem to be used in the disciplinary scheme primarily from two points of view: first as nice men who would not hurt any one, and then suddenly as ogres who, if the child does not desist in his misbehavior, will turn on him and make him suffer terribly."

In an article entitled "Facts and Fallacies of Cosmetic Surgery," *Dr. Jacques W. Maliniak* forcefully exposes the folly of the quest for rejuvenation at the hands of a "beauty specialist," the tragedies of disfigurement that have followed paraffin injections for the elimination of wrinkles, and the irreparable harm that has been done by those unscrupulous "beauty technicians" who "do not hesitate to take the surgeon's knife in hand to perform a face-lifting." "The great number of unfortunate persons who suffer mentally, physically, socially and financially because of physical disfigurement should know where to turn for relief, if there is relief for them. . . . They should look to the beauty specialist only for the cosmetic care of the hair, nails and skin, not for the treatment of diseases of these parts or for the care of abnormalities requiring surgical or medical attention."

"Stuttering is a disturbance of social adjustment intimately related to the individual stutterer's personal emotional life," writes *Dr. Frederick W. Brown.* "The child who stutters is, by nature, like every other child. At home, at school and at play, he acts and thinks and feels exactly as other children do. . . . Of the half million or more stutterers in the United States today, many thousands are adults who are going through life seriously handicapped and unhappy because some supposedly well informed person, years ago, told their parents, 'Just let him alone; he'll outgrow it.'"

Is your child underweight? If so, you will welcome the suggestions made by *Regina J. Woody* for keeping the underweight child in school.

"Poor nose! Strangely enough it was placed in the exact center of the face, and it juts out into space so that it is always in the lead—one is obliged to follow the end of one's nose. Why could it not have been placed on top of the head to be hidden by the hat or covered by the hair?" asks *Dr. Irving W. Voorhees,* in an article in which he offers commendation, commiseration and explanation concerning that "least respected of all the special sense organs."

Modern Voodooism

By JOHN LEE MADDOX

In spite of his parasitic life, the medicine man has rendered a social service unique in its significance.

Keystone

Part I

DESPITE the strong convictions of many persons as to the baleful influence of the medicine man and despite his imposition on society in the capacity of a parasite, for he does no actual physical work, his presence among his fellows has not been wholly for bad. He has really given to society more than he has received and has rendered a social service unique in its significance. Even the parasite has its place. Among bees, were it not for the parasitic drones the society would perish.

The medicine man is a human parasite; but he produces indirectly. He and his associates, being supplied by other classes with bodily sustenance, constitute a leisure class. Without a leisure class it would seem impossible among savages as well as among civilized peoples for any intellectual progress or culture to be attained. For people of the leisure class the struggle for existence is eliminated. They have necessarily a large surplus of mental energy which must be expended and a large amount of time which must be consumed. This energy and time have not been altogether wasted.

The priests of New Zealand turned their leisure to account by acquiring skill in wood carving and in other arts. Among the ancient Mexicans and Peruvians the shamans learned how to mix colors, to paint, to draw hieroglyphics, to produce music, to practice astrology and to reckon time.

Under primitive conditions the intellectual force of the group centers chiefly in the priestly class. The medicine men hence become the depositories of tribal legends. In many cases they are the sole members of the tribe who are acquainted with its history, and they are careful to keep this history a secret so that they may amaze by their knowledge those who come to consult them. Since the priests are the preservers of the legends and traditions of the tribe and of the art of writing, they either actively or passively become teachers of tribal lore and wisdom to the younger generation.

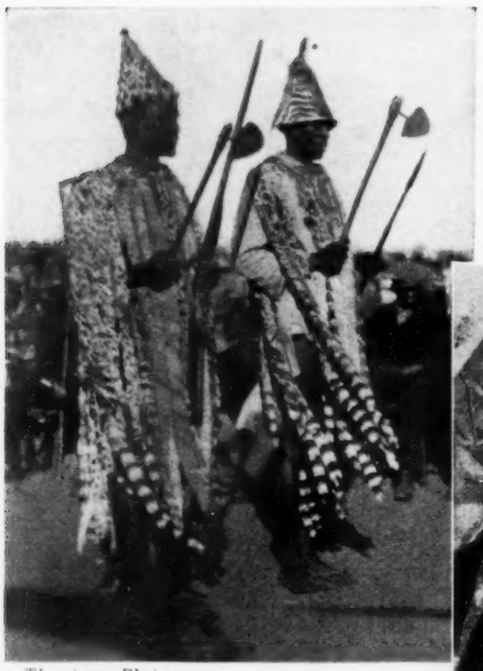
In Mexico, in Oceania and in Central California the shamans gave long and careful physical, mental and moral instruction to the boys and young men of their respective peoples. The observation of the heavenly bodies, the adjustment of the calendar and the pseudoscience of astrology are indebted for their beginnings to the regulation of religious festivals by the priestly class. From the study and practice of the pseudoscience of astrology came the real science of astronomy.

The medicine man was, therefore, the first musician, the first painter, the first reckoner of time, the first teacher, the first historian, the first priest, the first physician and the first astronomer.

The astronomers of ancient Egypt and Chaldea were priests, and the study of the science of astronomy, in which considerable progress was made by those peoples, was due to the existence of a hierarchy wholly exempt from the struggle for existence. This is shown by the fact that the results of that study were employed in religious ceremonies.

In ancient China a tribunal of mathematicians, which prepared a calendar of eclipses and made calculations of the movements of the heavenly bodies, was supervised by the priesthood. Hence, in the last analysis, literature, history, medicine, education and science had their origins with that parasitic body of individuals, the medicine men.

One of the most interesting functions of the medicine man is that of prophecy. He is a prophet, and he is the ancestor of all weather



Thompson Photo

To the left are shown two witch doctors of South Africa.

The picture below, taken from a woodcut, shows a medicine man trying by means of his rattle and prayers to cure a Dakota brave.

Keystone

men and weather bureaus. In all ages and in all nations there have been individuals who were sensitive to atmospheric changes and who were, therefore, able to make accurate predictions of the weather. It is asserted that animals—pigs, dogs, grouse, sheep and the like—can perceive these changes. When slugs enter houses and when cattle huddle closely together with their backs to the wind, a naturalist concludes that a storm is at hand.

As one goes higher and higher among the various forms of life, however, one finds that this sensitivity to weather conditions becomes weaker and weaker. Civilized peoples have, for the most part, lost the power of forecasting through feelings and sensations, excepting in some familiar cases where approaching storms are heralded by vague or rheumatic pains, a sense of oppression, general discomfort or heaviness in the head.

Ability to forecast the weather is regarded among savage people as a gift of the gods; and medicine men, many of whom have this ability, use the faculty to increase and enhance their influence and power. It is not difficult to understand how in primitive societies the man who has the gift of foretelling the approach of storm and calm, of fair weather and foul, comes to be regarded as possessing supernatural powers.

The rain-maker, or medicine man, often pretends actually to produce the rain which he forecasts. He does this by means of what is known as sympathetic magic, one principle of which is that any effect can be caused by imitation. Thus, among tribes of Brazil, it is the custom of the rain-maker to mount to the roof of his house, rattle vigorously a dried gourd containing pebbles in representation of thunder, and scatter water through a reed on the ground in order to prevail on the gods to send rain. Even if rain does not follow for several weeks, the medicine man as a rule need not worry about his prestige, for when rain finally falls, which always happens sooner or later, it is regarded as being due to the efforts of the rain-maker.

Here is an Australian incident which illustrates the facility with which the medicine man gets himself out of a difficult situation when things go wrong: "Far removed from the native settlement, and without any assistance, the rain-maker collected a number of white ants' nests which he shaped into an oblong mound. He next dug a trench, repeating the word 'do-re' throughout the whole performance, which he finally brought to a close by sprinkling water in all directions. Before going away, he took two sticks about 18 inches long, rolled them up in reed and fixed them in the ground at either end of the mound. Then, as he walked away, he threw some water behind him. No person was allowed to go near the spot where the rain-making was being practiced.

"A white man had publicly promised the rain-maker a bag of flour if rain came within twenty-four hours; and, when rain did not fall on this occasion the medicine man explained his lack of success to the natives as due to the presence of a white missionary.

"On still another occasion the rain-maker implanted his rain stick in the ground, and, as it happened, rain soon descended in torrents, so much so that the whole country was flooded. When the medicine man, in the presence of the people, boasted to a white man of his success, the latter replied, 'If you made the rain, cause it now to cease, for the country is being inundated.' The rain-maker naively retorted that such a feat was impossible from the very fact that the floods had covered the rain stick so that he could not find and remove it. This explanation was accepted without question by his childlike constituents."

But medicine men do not confine their prophesying powers to the weather. They have a

knack of predicting other events with a skill and an accuracy which often seem uncanny to civilized folk. Among the Kelta Indians of northwestern California, shamans professed to be spiritualists, not merely having visions in dreams but pretending also to hold converse with spirits in their waking hours by clairvoyance.

Like any other doctor the medicine man expects fees for his services. Sometimes the remuneration is small. Generally, however, it is quite handsome, particularly in those cases in which the practitioner has been successful in his "treatment."

Among the Miwok Indians of southern California the shaman had always to be paid in advance. Hence a person desirous of his services was accustomed to bring an offering which he flung on the ground without saying a word, thereby indicating that he wished its equivalent in medical treatment.

Here is a Sarawak doctor's list of prices: For getting back a man's soul, 6 gallons of rice; for extracting an evil spirit from the human body, 6 gallons of rice; for getting the soul of the rice at harvest festivals, 3 cups of rice from every family in whose neighborhood he obtains it.

When a man became sick among the Mackelchel Indians of California, the medicine man had him wrapped tightly in blankets and skins and laid on the ground with his feet to the fire. He then drove down a stake near the head of the patient, whose family or friends had to stretch strings of shell-beads (money) from the stake to the ankles, knees, elbows and wrists of the sufferer. The cunning shaman adjusted the distance from the patient to the stake and the consequent length of the strings of money according to the wealth of the sick man. If he were rich, then by the best divining of the shaman's art the stake was planted about 5 feet distant; if poor, only about 1 or 2 feet. After having "pow-wowed" about the unfortunate person sufficiently to make a well man sick or at least deaf, the "doctor" appropriated the money.

Dakota Indians often gave a horse for the service of the medicine man and were ready to part with all they possessed, and even to go into debt, in order to procure the aid of the servant of the gods. In Korea the sums demanded by the shamans are so great that they are estimated to aggregate $2,500,000 annually. Sickness is so costly a thing in Nias that a traveler often meets persons who have sold themselves into slavery in order to procure the necessary funds with which to purchase the services of the medicine man.

All this is very fine for the medicine man. There is, however, another side to his profession. No path is continually strewn with roses. It is impossible, under conditions of the survival of the fittest, for any person to "be carried to the skies on flowery beds of ease." And the life of the shaman is not altogether one of sunshine. The practice of his profession, in some cases, is attended by great danger.

Among the Pima Indians a plague, which killed many victims in a single day, once prevailed throughout the villages. Three medicine men who were suspected of having caused the disease by their magic were put to death—and nobody was sick any more. Among the Baris of the upper Nile the rain doctor who does not succeed in bringing rain when it is needed loses not only his reputation but his head as well.

A fatal epidemic of smallpox broke out a few years ago among the Mohave Indians. According to a reliable eye-witness, being unable with his incantations to stay the course of the disease the tribal medicine man at Needles, Calif., fled in terror. On the cessation of the plague, when the shaman returned to visit friends, he was seized by the infuriated people, beaten to death and decapitated.

During the British-Ashanti War of 1873-1874, a priest in the Ashanti camp was required to inform the public on which day the British gunboat lying at anchor would put out to sea. After making the proper conjuration, he announced that it would depart on the following day. At sunrise the next morning, however, not only did the gunboat fail to depart but two other enemy craft hove ominously on the horizon. The result was that the priest was beheaded.

A Dyak doctor was once engaged to attend a sick man. In the event of the patient remaining alive three days, a payment of jars was to be made as a

Keystone

According to the beliefs of the Dyaks, this medicine man will drive out evil spirits and permit good spirits to be present.

fee. The three days passed, and the payment was made. Then the patient died. Thereupon the son of the dead man, an impetuous lad, demanded the return of the jars; but the doctor refused to grant the request. The son then drew his *parang*, exclaiming, "My name may return to the skies!" and cut down the doctor and severely wounded his son.

Among the Persians, when a patient dies under treatment, the doctor not only loses his fee but incurs blame, for the opinion prevails that sick persons would not die but for the influence of a physician. As soon as it is evident that the end is at hand, the doctor is accustomed to withdraw; and by this means the patient and his family are officially notified, so to speak, that there is no hope. If a doctor unwittingly visits a sick chamber in which a patient has passed away, he is subjected to shameful treatment by the women and servants. For this reason the doctor usually sends out scouts who inform him of the houses where diseases have been fatal, and by this means he knows which places to avoid.

For all his special prerogatives it is plain that in cases of nonsuccess the status of the medicine man is at times far from enviable.

Like any practitioner of today, the medicine man, when called to the bedside of a sufferer, first makes his diagnosis. The twentieth century physician, however, would say that his predecessor in practice does not diagnose his cases along scientific lines. For the primitive doctor confines his efforts to discovering whether the sickness is due to the anger of an enraged spirit, the loss of the "kidney fat," the absence of the soul, possession by an unclean spirit, or the presence of bones, quartz crystals, little animals or other foreign substances introduced into the body of the patient by the magic power of some adverse wizard or medicine man.

Obviously such a diagnosis would have little value if the patient were really suffering from typhoid, pneumonia, cerebrospinal meningitis or heart disease. For when he begins his treatment, the shaman, instead of applying what could be considered sane measures, tries to bring back the lost soul, restore the "kidney fat," extract the extraneous substance or the animal, break the evil spell under which the sick man is suffering, or drive out the evil spirit and appease the demon responsible for the sickness. If he thinks the spirit is unfriendly, he tries to expel it. This is called exorcism.

One method of exorcism is that of causing the patient's body to become such a disagreeable habitat that the unclean spirit will not remain in it. This is sometimes accomplished by very drastic means.

The shamans of Sumatra try to banish evil spirits from an insane person by placing the unfortunate victim in a house and setting fire to the building, leaving the wretch to escape if he can. The sick person among various savage tribes is fumigated, made to swallow horrible substances, drenched with foul concoctions which only the savage imagination could conceive, all for the purpose of disgusting and driving out the unseen intruder.

Some persons today think that a medicine has no virtue unless it possesses a bitter taste. In the beginning that bitter taste was for the purpose of disgusting and driving out evil spirits in whom our ancestors believed.

Physical force is frequently used by the savage doctor to expel the demon. Among the Colombian Indians, in cases of abdominal pain the doctor's method of compelling the spirit to leave the patient was to press his clenched fist with all his might in the pit of the poor man's stomach.

I have known of many innocent old men and women of the Tagalog people, natives of the Philippine Islands, who were cruelly beaten and otherwise maltreated because the pagan shamans believed that in this manner demons could be exorcised. Cases are on record in which eye trouble has been treated by knocking out the patient's eye in order to let out or force out the evil spirit responsible for the disease.

The medicine men of the Algonquin, the Ojibway, the Sioux and other American tribes used the sucking method of exorcism. They sucked that part of the body where the pain was most intense, thinking by so doing to extract the demon. Among the Florida Indians the shamans sucked and blew on the sick man and placed hot stones, a primitive hot water bottle, on his abdomen to remove the pain.

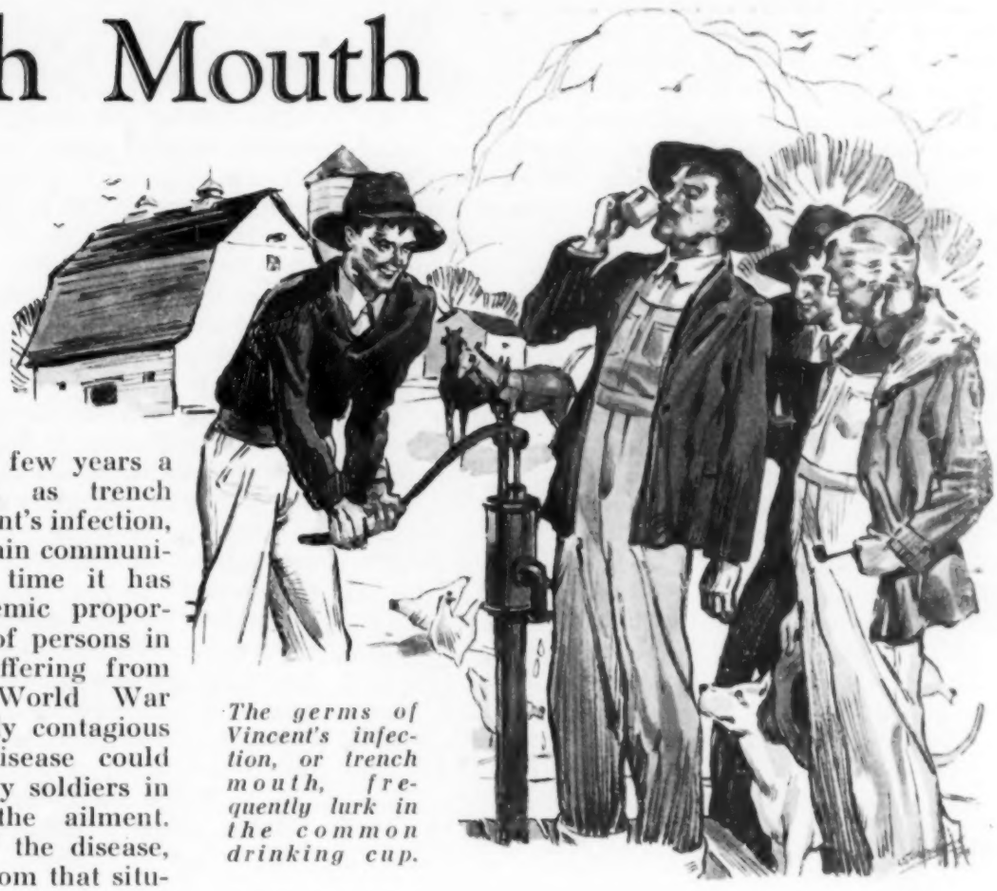
The medicine men of the Navaho and Chippewa Indians had a bony tube, similar to the much used European stethoscope, which they applied to the diseased spot and sucked in order to give relief. The Apache shaman in treating deep-seated pains sucked the place affected, putting so much energy into his work that he raised blisters. Among the California Indians the medicine man had a tube called the "chacuaco," made from a very hard, black stone, which he used in sucking afflicted parts of the body to draw out or disperse the mysterious disease.

(To be continued)

Trench Mouth

By

Sidney Sorrin



The germs of Vincent's infection, or trench mouth, frequently lurk in the common drinking cup.

DURING the past few years a disease known as trench mouth, or Vincent's infection, has broken out in certain communities. From time to time it has reached almost epidemic proportions, with hundreds of persons in the stricken areas suffering from the disease. The World War emphasized how highly contagious and infectious the disease could become, when so many soldiers in trenches contracted the ailment. The common name of the disease, trench mouth, arose from that situation.

Most laymen know the name of this disease but have no other information about it. In view of the importance of the patient's prompt recognition of the symptoms, I shall try to describe these symptoms concisely and indicate the precautions to be taken in guarding against the development and spread of the disease.

In its acute stage, trench mouth is characterized by white patches or ulcers which appear around the gum margins and on the tissues between the teeth. When these membranes or patches are touched, they bleed easily. The germs which cause this infection may be found even in healthy mouths, but they have a greater chance of developing in unclean mouths, where oral hygiene has been neglected. The potency or virulence of the germs depends on the health of the tissues; the healthier the tissues the less effective is the activity of the germs which cause this disease. Trench mouth has been found to flourish in persons whose resistance has been lowered by such conditions as faulty diet, extreme or chronic fatigue, poor hygienic conditions, overexposure, alcoholism, scurvy, metallic poisoning and anemia. Similarly, the disease may attack the mouths of undernourished children, or those suffering with infectious diseases such as scarlet fever, diphtheria or measles.

The disease starts its growth near an area which has already been irritated; for example, tissues around the third molars or wisdom teeth that are having difficulty in "coming through"; areas in which pyorrhea or pus pockets are present; areas in which the teeth are not in regular line; areas near cavities around gum margins, or areas in which the gums are inflamed by tartar, or calculus. From any such starting point, the infection may spread throughout the mouth generally and involve other teeth and tissues.

There are certain symptoms by which the disease can be recognized. The involved areas are red, sensitive and painful, and in acute cases they are covered with white membranous ulcers. The onset is sudden, and the pain may be noticed in brushing the teeth, moving the lips and cheeks, or eating. Bleeding takes place at the slightest irritation and often occurs even during sleep. An obnoxious sickening odor is characteristic of the acute state. Furthermore, an excessive amount of saliva, which is usually thick and ropy and has a coppery, metallic taste, is present in the mouth. Patients suffering from the acute stage feel irritated, nervous and tired. At times the glands of the neck are swollen, the tongue is coated, and there may be vomiting, diarrhea, constipation or an increase of temperature. Some of these symptoms may occur together and some separately, but during some stage of the disease they all ordinarily appear.

A word of caution at this point is important as to the ways in which trench mouth is transmitted. It may be spread indirectly by a person or an object in the usual manner in which disease germs are communicated. Some of the well known agents of transmission are common drinking cups, public eating places, telephone mouthpieces, common towels and tooth-brushes, cigars, chewing tobacco, cigarets, candies and pencils. The disease may also be transmitted by direct contact with a sick person through coughing or kissing.

Prevention is the byword of dentistry today, and only through regular visits to the dentist can the health of the mouth be maintained. All cavities should be filled, missing teeth replaced and the cleaning of the teeth regularly accomplished. Should symptoms of trench mouth appear, they should be reported to the dentist immediately, before the disease has had time to spread and become aggravated. For home treatment, one should take a laxative and use a light diet consisting of orange juice, milk, chicken broth, fish, stewed fruits, raw and cooked vegetables and eggs. Spices, tobacco and alcohol should be avoided. The teeth should not be brushed during the acute stage. As much rest as possible is good, and the necessary precautions should be taken about general sanitation, in order not to infect others.

The dentist will prescribe the necessary mouth washes, usually a sodium perborate powder, and will institute treatments which will soon give complete relief. It is important to follow implicitly the directions of the dentist. He will give the necessary office treatment and instruction in tooth-brush massage of the gums, which will restore the mouth to health and comfort in a comparatively short time. Often patients use mouth washes without consulting a dentist. These may reduce the pain but will not eradicate the disease. It is in this manner that a chronic condition will be developed. A visit to the dentist when signs of trench mouth appear will result in lasting and permanent benefit through his efforts combined with the patient's cooperation.

The best means of preventing Vincent's infection, or trench mouth, from developing is to maintain general good health through cleanliness and care and through the maintenance of clean, well functioning teeth.

SHALL WE PASTEURIZE?

(*Continued from page 127*)

it is applied to cow's milk that is being used for human food, as the State and Provincial health officers have pointed out through their committee on milk. The only natural milk for the human infant is human milk. Moreover, there is no evidence that heating destroys any food element of which raw milk has an adequate supply. Let it be remembered here that milk is not a complete food. It is deficient in vitamin C; that is why babies are fed orange juice or tomato juice. Pasteurization destroys vitamin C, but what of that? It affects neither the limited vitamin D content, which likewise requires supplementing with cod liver oil or viosterol, nor the content of vitamins A and B. Obviously the mineral salts are not affected. The protein is rendered more digestible by heat, and the fat globules are more finely divided. Studies by the United States Public Health Service on large numbers of children show that those who are fed on pasteurized milk thrive just as well as do those to whom raw milk is given.

Pasteurization, it should be remembered, is not boiling. It is usually defined as heating to a minimum of 142 F. and holding at that temperature for not less than thirty minutes after the whole volume of milk is heated. Properly carried out, pasteurization does not injuriously affect the taste of the milk or the separation of the cream.

Where pasteurized milk is not available, the milk may be boiled for five minutes and then promptly cooled. Home pasteurization is not satisfactory.

There is not a single argument against pasteurization which will stand the scrutiny of scientific investigation. It is a simple, harmless, effective additional safeguard which should be insisted on over and above all sanitary precautions, for all except certified milk. Parents have a vital interest in this matter because it affects their children's safety and because they may be in a position to institute requirements for pasteurization in communities where it is not now being demanded and to protect enforcement officials against political pressure for the abolition of pasteurization as a means of reducing the price of milk.

The answer to the question, "Shall we pasteurize?" must be an emphatic and a determined affirmative.

Feminine Beautification:

A *Quest from Ancient to Modern Times*

By CHARLES LERNER

Part IV

IN THIS, the last article of the series on feminine beautification, I intend to sketch briefly the ingredients in, and preparation of, the major cosmetics, to consider their judicious and injudicious use, and to philosophize somewhat as to whether or not they actually add to a woman's attractiveness. I shall also endeavor to point out, wherever possible, the dangers in the uses of certain cosmetics, particularly by those individuals who show idiosyncrasies; and I shall warn, without malice toward the average well meaning manufacturer, against too much credulity in the efficacy of cosmetics as curative agents or as improvers of diseased or undesirable complexions, as eradicators of wrinkles and blackheads, or as nourishers of the skin.

Cold cream, one of the chief cosmetics on the market, is prepared from a vegetable or mineral oil, such as almond oil, beeswax, or liquid paraffin, to which is added a small amount of borax to aid emulsification. Some manufacturers add spermaceti, which produces a very white cream but which is liable to become rancid and cause irritation. When this unpleasant condition develops, women often merely apply more of what they believe is a soothing cream, little suspecting the real cause of their trouble.

Vanishing cream, in reality, belies its name, for it does not vanish; it merely serves as a greaseless, partly visible, adhesive surface on which powder is spread. It also serves as a protective coating against sunburn and windburn. The two creams differ in that vanishing cream is an emulsion of steric acid in water containing soap, and cold cream is an emulsion of water in oil containing wax. For this reason, vanishing cream should never be left on the face overnight, as it clogs the pores with a collection of sebum, dust and powder.

There is still another cream for nocturnal use, which is known as an emollient cream. The continual use of cream on the face can be exaggerated. During the night the pores should be allowed to function unhampered and should be given a physiologic recess; but to the woman who has a dry skin, the emollient cream serves as a lubricant.

Photos by William Thompson

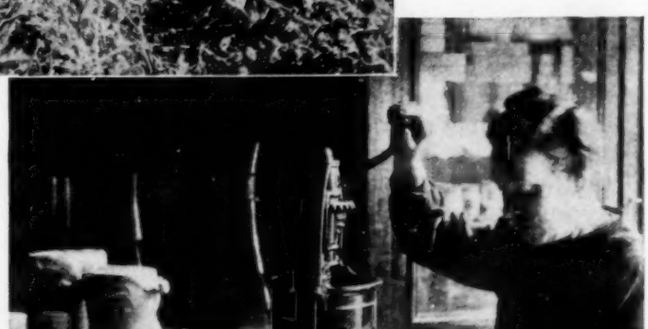
Agnes Sorel, whose beauty fascinated Charles VII of France

There are a number of other creams on the market, such as lettuce, cucumber, buttermilk and almond creams and other creams with fancy names; to these products some unscrupulous manufacturers attribute the name "skin food" or "nourisher." They are merely cold creams to which have been added the designated odors and colors; the creams are then placed in fancy containers, labeled and marked with even fancier prices. At this rate, women, believing that their skin will be nourished to better health, pay from $2 to $5 a jar for cold cream, yet they often hesitate to seek the aid of a competent physician who would give them sound, scientific advice. Modern woman must realize, first and foremost, that the skin is fed by one, and only one, means—the blood stream—and that it cannot be fed through the external surface with creams or lotions. Whatever improvement may result from their use is due to the massaging, which is, in reality, a passive exercise. The complexion can, perhaps, be made to appear more attractive by the use of creams, but the skin is merely hidden beneath a mask of cosmetics and is not actually nourished.

Many women prefer a greaseless cream, the base of which is glycerin. Since this cream is hygroscopic, it should be applied with a moist

Cutting the rose geranium for perfume gives employment to many natives in Algeria.

The picture below, taken in a laboratory in Grasse, France, shows the process of mechanically filling tubes with cosmetics and with dental paste.



cloth to avoid irritation and to produce a soothing sensation. There is also procurable a greaseless cream, the base of which is a vanishing cream, which already contains water and may, therefore, be applied with the fingers.

I cannot emphasize too strongly that discretion should be used in the choice of creams, since many are merely mixtures of cocoa butter and lard. Lard becomes rancid readily and is liable to irritate the skin and cause blemishes.

Mud packs consist of fuller's earth compounded with glycerin, tincture of benzoin and perfume. When water or starch paste is added, the resultant mixture makes a mud which may be applied to the face; this becomes dry and hard as evaporation takes place, and its action, in reality, is more mechanical than chemical.

There are no justifiable special claims such as some manufacturers maintain for various mud packs; the action is due merely to the benzoin present. The contraction of the mask stimulates the blood supply to the face and temporarily produces a ruddy, healthy glow. The pack has the faculty, as it is removed, of taking from the pores epidermal débris and dust which may be present. Frequently a mixture of purified kaolin and talc is used as an alternative for fuller's earth. This mixture produces a perfectly white mud which may be delicately perfumed and kept indefinitely.

Face powder, the most important adjunct to feminine beautification, was as highly esteemed by the early modern woman as it is today. The women of early England utilized the chalk from the Cliffs of Dover; it produced the appearance of a white mask instead of the healthy velvety glow so much in demand by present-day women. The modern woman wishes not only to impart a delicate texture and glow to the face but to protect it against inclement weather and prevent the entry of dirt into the pores. If she is really greatly concerned about her skin she always applies a vanishing cream as a base before applying powder or rouge.

Discretion should be used in the choice of a face powder as well as in the choice of a cream. Inquiry should be made as to the ingredients. Good powder never irritates the skin; it cools and soothes. Powder can be perfumed and colored to please the individual. Among some of the ingredients of the proprietary face powders are kaolin, a fine form of powdered clay, talc, magnesium carbonate and magnesium stearate. Magnesium carbonate is very white and light; magnesium stearate imparts adherent qualities to the powder. Some manufacturers, wishing to produce a cheaper powder, use precipitated chalk, which is not preferred by most women. Other powders may contain maize starch (corn flour), zinc oxide, or zinc stearate; and still others, which are liable to cause trouble, contain barium sulphate, compounds of bismuth, mercury or arsenic. Medical literature contains numerous reports of cases of irritations caused by such powders.

Some of the dyes used in the better powders are quite harmless, but the same cannot be said of the cheaper grades, which, however, are used mostly in the manufacture of theatrical

make-up. Powders must be chosen with the greatest discretion.

Rouges are merely white face powders to which "pure" coloring matter has been added. This should be chemically innocuous, lest it prove to be a skin irritant.

Lipsticks are almost in as great a demand as powders. They are a composition of wax or fat which has been melted, colored and poured into a mould. One can also obtain an emollient lipstick or pomade, frequently applied to chapped and peeling lips. It is made of pure cocoa butter or white petrolatum and is usually colorless, although sometimes coloring is added.

Perfumes, as noted in my previous article, play an important rôle in the lady's make-up, but they are not utilized without some attending dangers. Dermatologic literature contains many case reports of irritation, blotches or pigmentation caused by the use of perfume. The disturbing factor in many of these cases seems to be the oil of Bergamot, either the natural or the synthetically prepared product.

The modern woman is inclined to be a little too credulous in taking seriously whatever advertising matter she reads regarding the value or efficacy of the cosmetic advertised. What woman demands a chemical analysis of the cosmetics which she uses? What woman even as much as expects a statement of the ingredients on the container of the cosmetic so often casually purchased. She does not seem to consider the situation with the same degree of gravity which she uses when she purchases a canned food. She almost invariably inquires about the preservative or coloring matter used in foods, but with cosmetics it seems to be a different story. The reason for such gross lack of caution in the purchase of cosmetics probably lies in the fact that a woman does not ordinarily consider her skin as an organ of equal physiologic importance with her kidneys or lungs, and she therefore takes it for granted that anything put up in an attractive container and well advertised is harmless when it is applied to the face or other parts of the integument. Her main hope is that the product will cover or banish annoying defects, actual or imaginary.

Yet, often when the skin does become erupted, the victim reads superfluous advertisements and, accordingly, uses salves, ointments, washes and lotions which some fashion journal, newspaper, beauty parlor operator or department store clerk may recommend. Then, as a final recourse, when her skin has become too marred to obtain a good result, she seeks the advice of a physician. Should he succeed where her other various aids have failed, he is put on a pedestal; however, should he not obtain maximum results rapidly enough to suit her, he is to be banished, in her opinion, into oblivion.

Women must demand harmlessness in cosmetics and, whenever possible, must ascertain through their physicians whether or not the skin is sensitive or allergic to the cosmetics used. There are many blind pitfalls in the field of cosmetics; a list of these well advertised cosmetics, which have been found on investigation to be short of the standard, is published in "Cosmetic Nostrums and Allied Preparations," issued by the American Medical Association.

Every one knows full well that all the philosophy in the world will not deter women from using cosmetics. It is neither my intention totally to discourage their use nor my hope to realize the utopian state when women will wear their faces as Mother Nature intended them. However, I do wonder whether cosmetics really make an ugly woman better looking. The anatomic parts of a woman's face certainly cannot be changed by cosmetics. If she has a large nose or a prominent chin, powder will not improve either. Should her lips be thickened or otherwise unsightly, lipstick only adds to the unsightliness. Tampering with the lids and lashes causes, too often, a weird or freakish appearance when seen from a short distance. I have always maintained that natural ugliness is far more beautiful than artificial beauty. A face loaded with cosmetics produces a masked or false appearance. The genuineness or truth of nature is definitely lacking. The exaggerated quantity of cosmetics that some women smear on their faces sometimes almost becomes repulsive to the average observer.

Still, charming as a woman may be, she feels, and rightfully so, that the proper cosmetics judiciously used may add to her attractiveness; but she would be equally right in distrusting extravagant claims made by certain unscrupulous manufacturers. Though it is not correct, just, or wise to condemn all cosmetics as injurious, the burden of pointing out the dangers and pitfalls in their use should rest on the shoulders of the physician.

The wise woman of today, still possessed of the age-old desire of beautifying her appearance, takes many other details into consideration in making herself more attractive. Realizing that beauty and charm cannot be extracted from a mere powder or paint box, she wisely emphasizes cleanliness, diet, outdoor sports, gymnastics and manners, and does not overlook the importance of design and color harmony in the clothing suited to her particular type. At the same time she should be mindful of the fact that the physician with his broad knowledge of physiology and hygiene can be highly instrumental in her quest for health, feminine physical beauty and charm. All these measures by far outweigh the advantages of cosmetics which, at their best, are still in the balance, for who would dare refute the statement of the learned Propertius, "The best face is still the natural face"?

THE END

I Want to Know

A FIRST PHYSIOLOGY

By Oscar Reiss
and
Dorothy Walter Baruch

VI. What Would Happen to You if You Had No Bones

JERRY was acting silly. He was jumping up and down and shouting at the top of his voice, "I have no bones. I have no bones!"

But if Jerry had had no bones, he would not have been able to jump. He would not have been able to stand. He would have slumped down all into a heap, more shapeless by far than any rag doll you have ever seen; for bones hold the body up. They give it support.

There is a framework of bones from the top of your head to the toes of your feet.

Feel your head. It is hard; for under the hair and skin there is a hard, white, bony skull.

Feel the back of your neck. You will notice hard little lumps. These are parts of your back-bone. By following them, you can follow your back-bone all the way down your back—down and down until it ends at the place where monkeys' tails begin. Monkeys' tails, in fact, are the endings of their back-bones. Wouldn't it be

Without bones, Jerry would have slumped down like a rag doll.

funny if ours, too, ended that way? We might go around then with pink ribbon bows on our tails for ornaments and wag our tails pleasantly when we wanted candy.

Feel your chest. Yes, there is quite a large flat bone down the middle of it.

Feel around from the middle, between your nipples and down a little lower. Feel around and out toward the sides and on around toward your back. Do you notice how the bones inside there hoop around from the front in a sort of half circle right to the back-bone behind? Those hooping bones are your ribs. They can move up and down, and so they give your lungs a chance to stretch and become larger as they fill with oxygen.

Then feel lower. Poke around your stomach. You are right, there are no bones there. But get a little lower. How about those hips? Yes, indeed. Hard hip-bones are there—big bones which reach all the way through to the back, to where the back-bone ends.

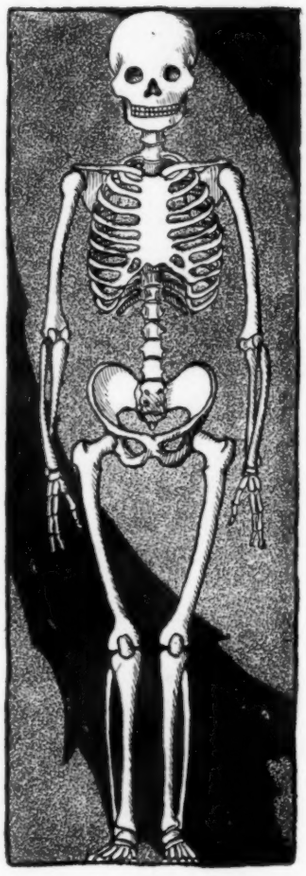
Feel either leg. A fine strong bone runs from your hip to your knee. It is padded well with muscles and may be difficult to feel. Nevertheless it is there. And from your knee down run two other bones, straight to your ankle, and there the foot bones join them.

Monkeys' tails are the endings of their back-bones.

Look at your arms, too. There is one bone at the top, from your shoulder down to your elbow. Two bones run from your elbow to your wrist, and from there on are the bones of your hand. In your fingers you can feel the bones very well.

"The bones bend," exclaimed Jean. "They bend in three places."

Jean thought that the bones themselves bent,



There is a framework of bones from the top of your head to the toes of your feet.

because she did not yet know that each bending place was where one bone began and another one ended. Nor did she yet know that the places where two bones come together and fit against one another are called joints. The joints in your fingers are called knuckles. The joints in your arms are at your elbows and wrists; the ones in your legs are at your knees and ankles.

The joints are made in such a way as to allow you to move freely. You can open and close your hand easily; but if your hands were not provided with joints, you would only be able to keep them stiffly straight. In the same way the joints at your elbows make you able to bend your arms; the knee joints make you able to bend your legs, and so on all over your body in the many bending places.

"But," wondered Jerry, "how is it that my shoulder lets my whole arm swing every way, and my elbow lets my arm bend at the inside only and not at the back?"

The ends of the bones fit together in different ways. At the shoulder, for instance, one bone fits into another as a ball fits into a socket. You have seen the same sort of an arrangement on desk lamps that can be swung around in every direction. At the elbow the bones fit together like the hinges of a door that can open out in one direction but is not able to open in the opposite one.

Like all hinges, your joints need oiling to keep them from becoming stiff and creaky; and so the oil glands send oil out to lubricate them as they need it.

Jean wanted to know whether her bones were softer at the end than in the middle. "You know, the way

gristle is at the ends of chicken bones," she explained. "You can chew it!"

Although our bones do not end in gristle, as chicken bones do, nevertheless we do have gristle in various parts of us, as for instance, at the ends of our ribs. The gristle enables these parts to curve more easily without breaking. Our gristle is called cartilage. You can feel it at such places as your ears and the end of your nose.

Then Jerry looked thoughtful and questioned, "but what keeps my bones from slipping out of place?"

Bones are tied firmly into place by tough, stringy bands called ligaments. These bands reach from one bone to the next and hold them together. As a still further safeguard, there are other stringy bands called tendons, which fasten the bones to the muscles and so help them to stay even more firmly in place.

Suppose you had no bones. You would simply flop down, as has already been mentioned. Having flopped down, you would not be able to move along with free firm strides on legs well supported with bones. Besides that, any one could come along and squeeze you, say around your chest where your lungs and heart are, and if there were no hard bones there to keep you in shape and protect you, the squeezing person could hurt you inside. And pouff, there you'd be, a sorry mess, indeed!

John looked thoughtful. "I'm glad I have all my bones," he said.

Jean wanted to know how many bones she had. They started to guess.

"Twenty-one?"

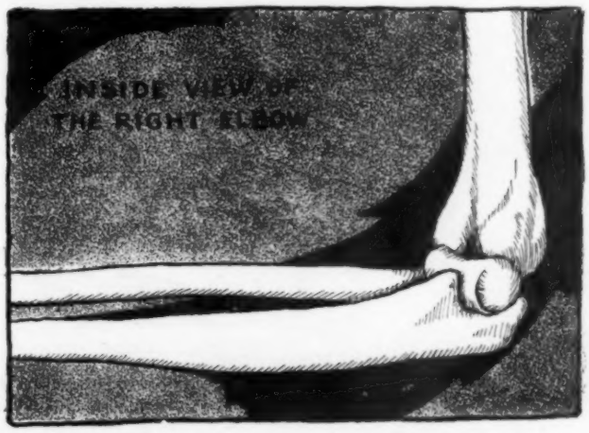
"Thirty?"

"Fifty-nine?"

"Eighty?"

Even Jerry was astonished to learn that there are 206 bones in the body.

(To be continued)



At the elbow the bones fit together like the hinges of a door that can open out in one direction but not in the other.

NEW BOOKS ON HEALTH

MORE POWER TO YOU!

By Walter B. Pitkin. Cloth. Price, $1.75. Pp. 298. New York: Simon and Schuster, 1933.

SINCE Mr. Pitkin's "Life Begins at Forty" developed a tremendous following among Americans who had lived but little life up to 40 and wished more thereafter, he has worked out this sequel. It is his thesis that the speed of life in this country tends to produce neurasthenics and worries at an extraordinary rate, and that most of this is due to an improper use of energy by the average man. His book is an attempt to tell the average man how to plan his time so as to make the most of his energy. This discussion naturally involves the subjects of food, rest, sleep, recreation, diet and the various tricks that are developed in the various trades to increase rapidity in production. Much of the book is based on the personal experience of its author whose own production is such that ordinary writers stand aghast before it. He concludes his book with a description of the technic of relaxation and the art of sleep, which should be helpful to those who require the advice. His final contribution is a series of rules for business men to aid them in saving energy. Most successful business men have already developed rules of their own which serve the purpose. Any man who needs these rules is not likely to be successful anyway. The volume will fascinate every worker, however, regardless of whether or not he needs its advice. MORRIS FISHBEIN, M.D.

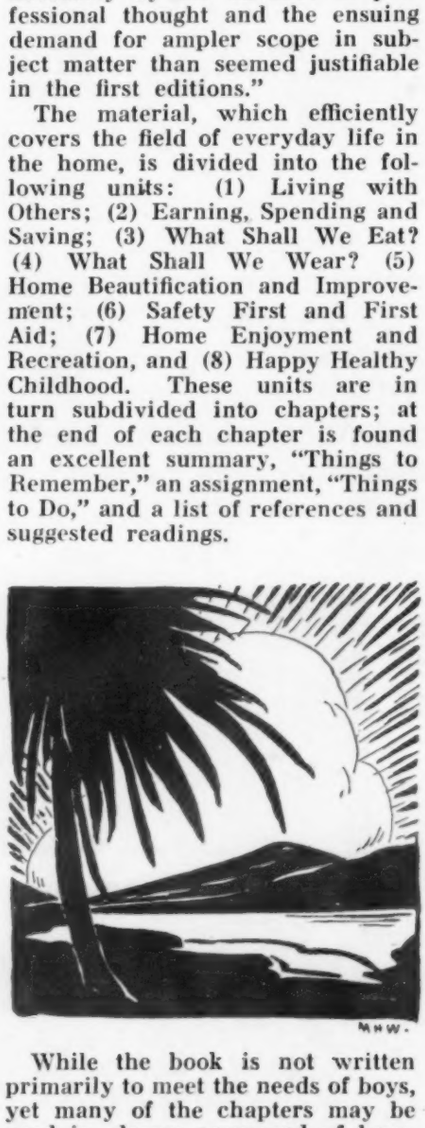
THE NEW FIRST COURSE IN HOME MAKING

By Maude Richman Calvert. Cloth. Price, $1.44. Pp. 507. Atlanta, Ga.: Smith, Hammond & Co., 1932.

ONE OF THE principal aims of modern education is to train children for life as it may be lived, to help them to use their hours of work and of leisure to make life as pleasant and as profitable as possible. The training for happy, useful adulthood must begin in childhood, and the training for effective good citizenship can best be instigated in that small community to which the child is first introduced—the home. In this miniature nucleus of society he learns to adapt himself to the ever enlarging circles of society with which he will come in contact.

Mrs. Calvert has turned her attention to the manifold phases of home making and has correlated the personal, home and community relations of the individual. "This new first course in home making," it is explained, "has been made necessary by the advance in professional thought and the ensuing demand for ampler scope in subject matter than seemed justifiable in the first editions."

The material, which efficiently covers the field of everyday life in the home, is divided into the following units: (1) Living with Others; (2) Earning, Spending and Saving; (3) What Shall We Eat? (4) What Shall We Wear? (5) Home Beautification and Improvement; (6) Safety First and First Aid; (7) Home Enjoyment and Recreation, and (8) Happy Healthy Childhood. These units are in turn subdivided into chapters; at the end of each chapter is found an excellent summary, "Things to Remember," an assignment, "Things to Do," and a list of references and suggested readings.



MHW.

While the book is not written primarily to meet the needs of boys, yet many of the chapters may be used in classes composed of boys, and practically all the chapters can be adapted for such use.

This new first course is full of practical suggestions presented in a conversational, friendly tone, with a personal emphasis that intrigues the pupils' interest. These are their problems; here are the answers to the thousand and one questions on etiquette, color harmony and good taste in clothes that have perplexed them; here are suggestions for planning entertainments, for arranging rooms more attractively and for selecting becoming clothes; here are food charts, menus and simple recipes which they can follow.

This group of lessons in home making for the junior home maker admirably fulfils the author's purpose—"to create and stimulate a greater interest in the natural instinct and love for home making and to lay a foundation. . . on which to build an everyday regimen of sensible and useful living." LEOLA J. HARRIS.

TWO TO SIX—SUGGESTIONS FOR PARENTS OF YOUNG CHILDREN

By Rose H. Alschuler. Price, $1.50. Pp. 160. New York: William Morrow & Co., 1933.

WITHIN the last decade or so, a great advance has been made in the study of the preschool child. The preschool period is now regarded as one of the most important in the life of the individual, for during these early years the mental and physical foundations of life are established. Among the various books that have appeared in this field none is more interesting or practical than this volume. It not only tells a great deal about the nature of the child between the ages of 2 and 6 and how he is to be taught but also presents a careful review of the various kinds of books and materials that may be used and tells where they may be secured. J. MACE ANDRESS.

FOOD AND DIETETICS

By Robert Hutchison and V. H. Mottram. Seventh edition. Price, $7.25. Pp. 660. Baltimore: William Wood & Co., 1933.

STUDENTS who wish to consult an authoritative work on nutrition will be pleased with this volume by two distinguished English investigators. It is written in nontechnical language which can be understood by the average teacher, and yet it is detailed in its treatment. As an example of its detail one finds two chapters on milk and two on bread. This is a worthwhile book for teachers. J. M. A.

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

Hitting the Nail on the Head

MANY YEARS ago, so many that I hesitate to count them, a little boy was standing on a carpenter's staging with his father. They were shingling the roof of a big red barn. The boy picked up one nail at a time from a box, started it gently with a hammer and then pounded it in with several blows. Some of the blows missed the nail entirely, and some glanced off so that the nail had to be straightened up by hand before other blows could be delivered. Finally after all this trial and error the job was completed. In striking contrast to this procedure the man picked up a number of the shingle nails in his left hand and started each one with the same hand by simply pressing it into the soft wood; and after one or two well directed blows on the head, the nail "went home."

This demonstration accompanied by no talking or formal instruction was one of the many lessons that I learned from my father. It is probably because of the vividness of this sort of experience in the lives of many persons that the expression "hitting the nail on the head" has become such a popular figure of speech. To hit the nail on the head stands for efficiency and skill. It also involves a clear-cut conception of what is to be accomplished.

The editorials and special articles in the "School and Health Department" of the January number of HYGEIA centered around the problems of discovering the personal health needs of children and of basing health educational procedures and teaching on such discoveries. This is one way of hitting the nail on the head. This month the department takes up the discovery of those needs that arise primarily from the environment. The chief value of the special articles under "Solving Health Educational Problems" lies not in telling teachers and health educators specifically what they ought to teach but rather in suggesting a sound method of approach to vital problems. It is obvious that every school is unique in its community setting and that its needs are always somewhat different from those of any other school. The same thing may be said of every system of schools. The approach pointed out by the contributors to this department is that of discovering what these needs are. Ruth E. Grout, director of the health education study of the Cattaraugus County school health service, gives the background of the environmental needs of rural schools in Cattaraugus County, N. Y. As Miss Grout suggests, it was anticipated that general objectives would be built on the basis of this study, but it was also expected that the individual teacher would set up objectives of her own. This study should have the special value of indicating a method of approach to the problems of rural school teachers everywhere. Dr. Herbert J. Stack's article is likewise especially illuminating in pointing out how one may arrive at objectives in safety education. Using similar methods of approach, Richard J. Schmoyer tells about his constructive efforts in health education at Lynn, Mass.

School Health Days That Count

THE PUBLIC SCHOOLS of the city of New York have changed their annual health day from November to September. This is significant because it leads to the earlier discovery of the physical defects of pupils, and it also makes possible their earlier correction.

On the date of health day all academic work in the schools is suspended until all pupils have been observed and tested for acuity of vision, evidences of eyestrain and defective hearing, defective teeth, malnutrition, obstructed nasal breathing and other physical defects. If requested by principals, school physicians and school nurses will give clinical demonstrations in their respective school assignments to instruct teachers in discovering the apparent physical defects of their pupils. Careful records are kept of the observations, and there is follow-up work by the school medical inspectors and school nurses.

Even before this follow-up work begins, teachers are expected to start a follow-up in the classroom. Pupils with defective sight and hearing are seated where they can see and hear to the best advantage. Undernourished pupils are given special classroom instruction in dietetics and the value of rest, sleep, fresh air and sunshine. An effort is made to teach individual pupils what they need most in order to gain and conserve good health.

Every teacher, even at the crossroads, may strive with success to give some individual children some of the knowledge that they need for healthful living.

Solving Health Educational Problems

What Do Children Need for Safe and Healthful Everyday Living?

SCHOOLROOM CONDITIONS AND PRACTICAL HEALTH EDUCATION PROGRAMS

RICHARD J. SCHMOYER
Director of Physical and Health Education
LYNN, MASS.

IN THIS PAPER I offer a series of problems which have to do with some of the environmental factors in a practical program of health education. The reader, I hope, will exercise his common sense and judgment in arriving at conclusions and procedures, particularly if he is a classroom teacher.

Is the temperature of the classroom an important factor in health? What can the teacher and the pupils do about it? Is the teacher prohibited from opening the windows? If there are any doubts about the relationship of the pupils' and teacher's comfort and health to the temperature of the classroom, I suggest perusal of the "Report of the New York Commission on Ventilation."

Some school buildings acquire a unique and peculiar odor. Is such an offensive smell due in some degree to some unsanitary condition in the school? Is it part of a teacher's educational responsibility to teach children the care of toilets? Whether or not the toilets are well constructed and equipped, the teacher should not refrain from improving the acts of children. The

conduct of children may establish a better or a worse environment.

Another important environmental influence is the arrangement of the school program. What are the causes of absence from school? What relationship exists between retardation and absence? What emotional upsets are caused by the pupil's efforts to readjust his school life after illness?

Is the school day too long for first grade pupils? What are the fatigue levels during the school day for the pupils of various grades? The factory executive can tell any inquirer when and with what intensity fatigue levels occur to his employees. Can the schools answer the questions about fatigue and absenteeism with the same assurance? Can the schools so adjust the length of the school day and of the school year that the child's health will be the predominating motive?

Is it important to the parents and to the teacher to know when certain parts of the school's daily program should be offered? Should the health habit of inspection of hands, face, hair, handkerchief, clothes and shoes come at the beginning or at the end of the school day? Is it essentially important to the health of the child to have memory work, such as spelling and formal grammar, following a relaxation period? Should physical education classes be scheduled directly after the lunch period?

Is the following procedure a safe and reliable principle as it relates to the problem of fatigue: that the length of the school day and the various activities, mental and physical, which constitute the daily program should be graded to fit the age and the resistance of the child?

Such other environmental factors as adjustment of seats, placement in the classroom of pupils who have ear and eye deficiencies, amount of clothing worn by junior and senior high school pupils in the classroom, and cleanliness of school yard and school building are important educational problems.

These are some of the important environmental factors that should be considered whether a health education program is being constructed or whether it is in actual use. The response to all health education should be practical and purposive. There are many more statements and questions which can be offered to show that environment is a strong influence in health education.

The organization of a teachers' or of a pupils' health council at any level of the school system, in elementary schools or in junior or senior high schools, is a means of enhancing the health education program. The members of the council should give serious attention to the challenges that the environment presents. The answers to the questions listed in this article can be found by the members of the council.

Warren Boyer
A study of neighborhood hazards may reveal coasting on unguarded streets and hills.

What are you doing to establish health as the predominant motive of the child? What efforts have you exercised in establishing a health program adapted to your community's needs? Do you know the health needs of pupils and the influence of the environment on such needs?

ORGANIZING OBJECTIVES IN SAFETY EDUCATION

HERBERT J. STACK, PH.D.
Teachers College, Columbia University
NEW YORK CITY

THERE are three useful methods of setting up sound safety objectives in the health program. Many school systems are basing their safety objectives on a study of the activities of children at various seasons of the year. This is called the activity analysis method. Other systems use in addition the error analysis method. This involves getting pictures of children's accidents from accident reports at various age levels and months of the year. An accident is looked on as an indication of educational shortage, a need for safety education. For example, a small eastern city had twenty-six roller skating accidents during the month of October. One of these accidents resulted fatally, and several were of a serious nature. All in all they revealed the need in that city of special stress on the subject of roller skating.

Still another method is used in some cities, particularly for deriving upper grade and secondary school objectives. This involves an analysis of the community safety activities by which society protects itself against common hazards. These three methods may be utilized by a school or a school system for validating safety objectives just as they have been used by curriculum committees and research workers all over the country.

These methods may be applied in a local school system by making, first of all, a study of the hazards of the neighborhood at various seasons of the year. This also involves an analysis of the children's activities. A study of this kind might reveal conditions such as the following:

Children in our district cross, on the average, forty streets on a school day on the way to and from school.

There is inadequate safe play space, and children play on the highways.

In the fall months there is a great deal of roller skating on dangerous streets.

In the winter months children coast on nearly all the hills. No streets have been set aside for coasting.

There is a railroad track near the school.

Some children swim in the bay not far from the school. There is no protection afforded here, and the water is polluted by sewage.

These are a few typical observations of such a survey. Many others could be listed. From such a list a committee might decide on certain general objectives.

The curriculum committee could then proceed to get all the facts about child accidents in the community. These may be secured from the police, health and fire departments and from other agencies. In many cases figures are available for various age levels. Here is a typical list of causes of child accidents in the city:

STREET ACCIDENTS
Crossing street not at intersection
Crossing street against traffic lights
Playing games in the roadway
Running into the roadway
Stealing rides
Roller skating in the roadway
Careless bicycle riding
Coasting on slides and carts

HOME ACCIDENTS
Playing with matches
Falls
Electrical and gas accidents
Internal poisons

A similar list can be built up for accidents in play and recreation and other public accidents including drowning and railroad accidents.

From the two methods that have been described, curriculum workers may set up general objectives as well as specific aims for each grade and may organize the material into seasonable objectives. In general it is a good plan to stress seasonable hazards as follows:

September.—To teach children safety on the streets and highways.

October.—To show how fires can be prevented and how fires are fought.
November.—To show how to be safe in the activities of the home (prevention of falls, gas and electrical accidents and the like).
December.—To show how accidents in the school may be prevented.
January.—To learn safety in winter sports such as coasting and skating.
February.—To show neighborhood hazards.
March.—To reemphasize safety in play and recreation.
April.—To encourage children to learn to swim (water safety).
May.—To show how to have a safe vacation period.

These seasonable objectives are broken down into specific objectives for various grades. However, in safety it is not possible to allot one subject such as roller skating to any one grade and assume that it will not need to be stressed in other grades. Many of these subjects, particularly street safety, must be emphasized continuously.

Some cities set up additional objectives by making a survey of accidents reported by the children. Perhaps the best example of this procedure is in Dr. Ruth Streitz' "Safety Education in the Elementary Schools," which describes a study of the accidents of more than 1,000 elementary school pupils over a period of two years. (Copies of this book and other courses of study for secondary schools and vocational schools may be secured from the National Bureau of Casualty and Surety Underwriters, 1 Park Avenue, New York City.) Fortunately many cities now keep records of accidents of school children and report these accidents to the National Safety Council. During 1933, cities covering a pupil enrolment of more than 350,000 reported accidents directly to the National Safety Council. An analysis of these accidents is helpful in setting up objectives.

The third method that has been suggested for building curriculums is the analysis of community safety activities. The good citizen should know what his community is doing to reduce accidents, so that he may learn to cooperate. Such an analysis will reveal the topics, such as the following, to be used as general objectives:

What the police department is doing to reduce accidents.
How the fire department prevents and fights fires.
What the health department is doing to reduce accidents.
The work of the American Red Cross in preventing accidents in the water.
How accidents in camps are being prevented.
How forest fires are prevented.
What the national government is doing to reduce accidents; the work of the coast guard, the lighthouse service and other agencies.
Why it is important to have fire drills
What school safety patrols are doing.
How pupils can play in safety on the playground.
Why the policeman is the friend of children.

It must be kept in mind that the list of objectives suggested is only a partial one. I have been interested only in showing three sound technics for validating safety objectives. If a school or school system will utilize one or more of these technics—make a survey of seasonal activities of the children, analyze child accidents or study community safety activities—it should derive a list of objectives which, properly allocated to grades and subjects, should be a sound basis for its child safety program.

HEALTH EDUCATION AIMS FOR RURAL SCHOOLS

RUTH E. GROUT
Director of Cattaraugus County School Health Service
CATTARAUGUS COUNTY, N. Y.

WHEN a unified health education program was first begun by the teachers of the small rural schools of Cattaraugus County in New York State, it was decided to make a study of the environmental needs of these schools, which might serve as a basis for formulating some of the objectives of the program.

The characteristics of the school environment and the manner in which a child uses the environment have an appreciable influence on the child's health. This is particularly true in rural areas, where a close relationship exists between the physical environment and those living in it. For example, water supplied by nature is pure and becomes a source of danger only when it is polluted by man. In large communities a municipal system of water purification and distribution ordinarily assures a safe supply for schools. In rural sections, however, where each school is responsible for its own supply, the degree of safety is in proportion to the enlightenment of those providing and using the supply. An element of danger exists when water must be carried to the school from a neighboring well or spring, and this danger is reduced to a minimum only when intelligent methods are employed in handling it.

As a means of discovering environmental needs, a "School Health Study" was prepared by a committee of teachers for county-wide use. It was anticipated not only that a set of general objectives would be built on the basis of this survey but also that each teacher would select her own objectives for health teaching in the light of the needs revealed by the use of the survey in her particular school.

The questions of the study dealing with the school environment and the activities of the pupils in relation to the environment were grouped in five sections under the following headings:

1. School Sanitation
2. Heating, Ventilating and Lighting
3. Room Arrangement and Cleanliness
4. Provision for School Safety and Play Activities
5. School Lunch, Weighing and Measuring Program

Each question was stated positively, and it set a definite standard of achievement. It could be answered by a simple "yes" or "no." Provision was made for recording answers in September and May over a three year period, and space was given to add comments and progress notes each year. Two typical questions taken from the page on "Provision for School Safety and Play Activities" were:

Equipment: 1. Is there a first aid kit?
Activities: 1. Do older pupils know how to use the materials in the first aid kit?

International Newsreel

Official lists show that many accidents to city children result from stealing rides.

To give the study immediate value it was suggested that, whenever it was possible, the teachers should enlist the aid of the older pupils in filling it out. In many instances this has been done during a hygiene period and has served as a splendid technic for arousing pupil interest in school problems. It also was proposed that each school should select at least two outstanding needs revealed by the study and should work to improve these conditions during the year.

The study has been used on a county-wide basis for one school year. The response has been excellent. In many instances there has been evidence that the study has motivated teaching activities and has formed the basis for units of work developed around the problems found.

The general objectives prepared in tentative form from the first year's experience with this study have recently been placed in the hands of every teacher of the county. These objectives are serving as scientific guide-posts to the teachers in determining their own specific objectives for improving conditions in their schools.

The activities which have grown out of this cooperative study are outstanding in their practicability. Instead of using the cut and dried, page by page assignments and recitations from health books, teachers and pupils, and sometimes trustees, superintendents and nurses have worked together to improve such environmental problems as inadequate drinking and handwashing facilities, or seating and lighting deficiencies. Strikingly enough, when the pupils are given encouragement, they are enthusiastic in their desires to seek ways of making better use of existing equipment. In these schools, health books and other available materials have become vital tools for understanding the problems that all are trying to solve together.

One of the most notable outgrowths of this new attitude toward environmental problems has been the school club. Rapidly and effectively, this broader club, which embraces a wide variety of school activities, is replacing the health club, which too frequently was limited to competitive activities related to observing health rules.

In this new school club the children, as citizens of the school community, share the responsibilities of the school. Meetings are conducted according to parliamentary practice and "committees" of one member or more attend to the various duties about the schoolroom. Some commonly appointed committees are those in charge of room cleanliness, toilets, water supplies, handwashing activities, playground and library. In addition, the school club is proving to be a most important channel for character education and extracurricular activities.

Rural school surveys, which are useful in determining objectives and are similar to the survey already described, are available from various sources. A check sheet, entitled "Teacher's Inventory of Health Assets," and a supplementary booklet, "Pointers on Health Assets," are obtainable from the National Tuberculosis Association, 450 Seventh Avenue, New York City. A more comprehensive questionnaire, "Safety and Health of the School Child, A Self-Survey of School Conditions, Circular No. 65," recently has been prepared for distribution by Dr. James F. Rogers of the United States Office of Education. It is possible, however, that some rural teachers may prefer to enlist the help of their older pupils in the preparation of a survey sheet of their own. This might provide purposeful activitity for several hygiene periods during the early part of the school year.

The teachers of Cattaraugus County gradually are finding that the best results in health teaching are obtained when objectives are based on needs recognized not only by the teachers themselves but also by their pupils.

To Contributors:—*Although most of the articles in the column "Solving Health Educational Problems" are solicited, the editor of this department will be glad to consider contributions which deal with concrete and practical health education procedure in the school. Articles must not exceed 1,000 words.*

A BIBLIOGRAPHY
for solving health education problems

Adams, R. M., and Dalthrop, C. J.: Making Activities Serve the Child. *School Life* (March), 1932.

Describes a study of elementary school curriculums with the aim of securing a better integrated day and a better balance of activities.

Bauer, W. W.: The Teacher's Part in Cornering Contagion. *Journal of Health and Physical Education* (Sept.), 1932.

Definite and helpful suggestions.

Metropolitan Life Insurance Company: The Teacher's Health. Free. Pp. 32. New York: School Health Bureau, Metropolitan Life Insurance Company.

Points out that the teacher's own health is an important factor in making the classroom healthful.

Metropolitan Life Insurance Company: The Custodian and the School Child. Free. Pp. 16. New York: School Health Bureau, Metropolitan Life Insurance Company.

Considers basic aspects of care of school building and equipment from point of view of providing a healthful environment for pupils and teachers.

National Society for the Prevention of Blindness: Suggestions for a Program of Eye Health in a School System. Free. Mimeographed. New York: National Society for the Prevention of Blindness, 1933.

Includes a helpful statement of "essentials of schoolroom environment required for conservation of vision of school children."

National Tuberculosis Association: Pointers on Health Assets. Pp. 15. Distributed by state and local tuberculosis associations, 1931.

Indicates the health factors that the teacher can help to control in the school environment and tells how she can do it.

U. S. Office of Education: Sanitation of Schools—Suggestions for Teachers, Education Leaflet No. 1. Price, 5 cents. Pp. 6. Washington, D. C.: Superintendent of Documents, Government Printing Office, 1930.

White House Conference Report: The School Health Program. Price, $2.75. Pp. 400. New York: Appleton-Century, 1932.

Chapters on "The School Plant" and "Mental Hygiene in Schools."

NEW HEALTH BOOKS
for teachers and pupils

THESE two bulletins, "Intramural and Interscholastic Athletics" [1] and "Health Work and Physical Education," [2] should receive a cordial welcome by physical education teachers and directors throughout the country. All who are engaged in educational guidance are likely to be so immersed in the minor details of problems near at hand that they fail to see their problems in a large perspective. As a result of the national survey of secondary education conducted under the direction of William John Cooper, United States Commissioner of Education, and a staff of experts, it is now possible to understand some of the main trends in health and physical education throughout the country.

Some of the "faith aims" that have been so enthusiastically accepted by health and physical educators at various times are checked up severely. It has been claimed that certain traits of character develop because of interscholastic activities, but to date no study has been made to measure the extent to which the participation in interscholastic athletics develops these traits. Mr. Brammell does well to point out that bad traits as well as good traits of character may be developed by interscholastic activities. He believes that the determining influence is the type of leadership supplied to boys and girls. Without such leadership, codes of sportsmanship and pledges do not become real in the lives of the pupils. Among the schools studied it was also shown that the interscholastic competitions deal with a few sports that do not have any recognized carry-over into life.

Only a little more than half of the secondary schools have definite outlines of study for health instruction. Many of these outlines, however, are not to be found on paper and probably exist merely in the memories of the teachers. A special health course is offered for all pupils in 42 per cent of the schools. Such a course is more likely to be taught by teachers of physical education than by any other persons. Junior high schools seem to be distinctly in the lead in the scope and effectiveness of the work given. A special health course is required of all pupils in 42 per cent of the schools. The computations of time show that pupils receive more health instruction in minutes when it is given in a special health course than when it is given in connection with other courses. Only about a third of the schools seem to be satisfied with their present health programs.

Each of these bulletins has an excellent summary at the end. The thoughtful reader is certain to get not only a good idea of what is being done in health and physical education today in high schools but also many suggestions for building sound health programs in secondary schools.

ALL TEACHERS should be keen, sympathetic and intelligent observers of children if they would know their needs and guide their activities aright. "Outlines for Study of Children in School" [3] is a significant and up-to-date contribution for the study of the children. It offers to the student or teacher a concrete plan for the study of individual children. It is so well systematized through its organization that the recording may be done with ease. There are many references to the best scientific literature available to aid the observer in seeing and in interpreting what he sees. Any student who pursues this outline should be well repaid in gaining a better understanding of the physical and mental needs of children.

"HEALTH and Success" and "Health and Good Citizenship," [4] two well known books for children, have been revised so as to bring them up to date scientifically; new material has been added, and new illustrations have been incorporated. The exercises at the end of the chapters have been thoroughly revised and rewritten. In "Health and Good Citizenship" there is a new and longer chapter on alcohol in which it is compared with milk as a beverage. The change in the colors of the binding does much to make these books look new and attractive.

AGAIN a new textbook on personal hygiene appears. The authors are both instructors in hygiene in a college and so are quite familiar with the health needs of college students. This book, "The Practice of Personal Hygiene," [5] is practical in its purpose and is intended to help the student in solving his everyday health problems. The subject matter is divided into large units. There are only thirteen chapters in the book. Facts relating to pure biologic science have been eliminated so that the major factors which determine health and longevity may be emphasized. The questions at the end of each chapter are general in character. (It is to be hoped that before long one may find in college textbooks questions asked by the students themselves.) The last chapter is devoted to community hygiene. The book contains little physiology. The fundamental facts on personal hygiene are presented clearly and in simple language.

IF THERE WAS ever a man qualified by experience to write or edit a book for convalescents it is Frank Scully. He has been a sojourner among twenty-five different hospitals. And what a superb fighter he has been! Flat on his back and suffering from many maladies, he has written and edited countless things, and now he comes forward with "Fun In Bed." [6]

Dr. Logan Clendening writes facetiously in the preface:

"Take full advantage of it—your convalescence.

"You are a despot for a day. You have only to motion languidly with your fingers and the window shade will be drawn for you. You are laved, you are fed, you are deferred to, you are waited upon. You are poised somewhere between earth and heaven, attended by minions like a queen bee, without being under her binding necessity of contributing to the social order.

"You belong to the only privileged class.

"What are you going to do with this gorgeous expanse of time?"

Frank Scully's book is the answer to the question. It is filled with nonsense of all kinds, jokes, anecdotes, and stories written by some of the world's humorists. There are all sorts of games and puzzles for the convalescent. At the end of the book there is a check-list for visitors when they ask, "What'll I bring you next time?" There is also a visitors' register. To make sure that the book will function, a sharpened pencil is fastened to the binding of the book.

It would be useful to have this book on a shelf of a traveling library for one's convalescent friends.

Students who are studying the problem of nursing should become familiar with this gay book.

---

1. By Brammell, P. Roy. Price, 10 cents. Pp. 143. Bulletin, 1932, No. 17, National Survey of Secondary Education. Monograph No. 27. Washington, D. C.: U. S. Government Printing Office, 1933.

2. By Brammell, P. Roy. Price, 10 cents. Pp. 97. Bulletin, 1932, No. 17, National Survey of Secondary Education. Monograph No. 28. Washington, D. C.: U. S. Government Printing Office, 1933.

3. By Bailey, Edna W.; Laton, Anita D., and Bishop, Elizabeth L. Price, $2.25. Pp. 248. New York: McGraw-Hill Book Company, Inc., 1933.

4. By Andress, J. Mace, and Evans, W. A., M.D. Boston: Ginn and Company, 1933.

5. By Langton, Clair V., and Isaminger, Melvin P. Price, $2. Pp. 351. New York: Harper & Bros., 1933.

6. Edited by Frank Scully. Price, $2. Pp. 187. New York: Simon & Schuster, 1932.

QUESTIONS AND ANSWERS

Teeth and Brain

To the Editor:—The following statement appeared recently in a newspaper report: "Dr. G. Elliot Smith, famous professor of anatomy at London University, expresses the belief that while brains grow, teeth rest, and man pays with weak and crooked teeth for a better brain." Is there any justification for this statement? If there is, would one infer from this that most persons with poor teeth have more or better brains than those with good teeth? Dr. Ales Hrdlicka of the Smithsonian Institute says in an article in the *Literary Digest* that the people of the distant future will have larger and broader heads and little hair and will be active and nervous. Would this description imply more intelligence? Are nervous people as a rule more intelligent than stolid ones? Dr. Mayo says that the human brain is as large at 15 years of age as it ever gets. Is this correct?

H. M., Georgia.

Answer.—Dr. Smith's statement is true of races in a general way; it is not true of individuals, and it would be impossible to draw the inference suggested.

Dr. Hrdlicka's statement represents his summation of a general tendency of evolution; he would not draw the inferences implied in the two questions.

Dr. Mayo's statement is in general correct. The human brain without the dura mater weighs about 3½ Gm. in the third fetal month, 350 plus at birth, 700 at the end of the first year, 1,100 at 6 years, and about 1,360 (full weight) at from 15 to 18 years. Cases of precocity in the development of the brain are not unusual. Growth may continue up to 20 years. After 60, the weight decreases. About 6 per cent of the weight of the brain is lost at 80 years.

Halibut Liver Oil and Cod Liver Oil

To the Editor:—Is haliver oil superior to cod liver oil? I have given my 10 year old daughter cod liver oil until this spring when my druggist suggested that she would get more benefit from haliver oil capsules. I gave her a box of 125 capsules, but I am in doubt as to the result. This child does not have hay fever, but she has a tendency toward it or sinus infections; she sneezes and blows her nose early in the morning. The last two autumns this condition has been aggravated. Is cod liver oil good for such a condition, or did it simply clear up of itself? Will haliver oil capsules benefit her more?

H. L. J., Indiana.

Answer.—Certain preparations of halibut liver oil, as a source of vitamin D, have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Other preparations which are sources of vitamin D, including cod liver oil and viosterol, have also been accepted. Lists of these will be sent on request.

It is not a question of which source of oil is to be used but a question of the amount of vitamins A and D contained in the various preparations. The dosage of these should be regulated by the physician. Provided the correct number of units of the respective vitamins are taken, it makes little difference about the source unless it is found that a patient can take a concentrate, such as halibut liver oil or viosterol, better than unconcentrated preparations, such as straight cod liver oil, flavored cod liver oil, or cod liver oil with malt.

The use of preparations of vitamin D in hay fever is experimental. Some interesting and favorable results have been obtained, but explanation of them is not apparent at this time. Children with symptoms such as the ones described should have more than just cod liver oil. They should have an examination by a physician to determine the cause of their symptoms.

Advice as to what preparation of cod liver oil or other sources of vitamins A and D should be taken ought to come from a physician and not from a druggist.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Perfect Measurement

To the Editor:—What would constitute perfect measurements for a 16 year old boy?

C. B., Illinois.

Answer.—Such measurements do not exist, and probably cannot exist. There are wide variations in types of human beings. Some are tall and slender; others are short and stocky. Some are both long and heavily built; others are short individuals who, nevertheless, remain delicate and slender. All these types may be in a good state of nutrition and may enjoy good health. Especially in a country such as ours, made up from various racial groups, is there a lack of typical height-weight relationships.

Numerous tables of averages have been published, but these refer mostly to weight and height relationships at given ages and have been rather definitely shown to be of limited significance when individuals are compared with these averages. Much work has been done along this line, and highly intricate scientific measurements have been made, involving the height, weight, skeletal measurements, chest girth and depth, sitting height, body surface area and body volume.

A physical examination is necessary to ascertain the state of an individual's health.

Abrasive Depilatories

To the Editor:—Please inform me regarding the reaction of abrasives in conjunction with their use as hair removers. Do bacteria thrive on abrasive depilatories? If so, is there any method available of destroying the bacteria or of checking the growth thereof on these abrasives?

S. Q. L., New York.

Answer.—The use of abrasive depilatories is not advisable. It is not a question of bacteria thriving on abrasive depilatories so much as it is of bacteria being always present on the skin. Abrasives irritate the skin and create minute injuries which offer an opportunity for the skin bacteria to produce infections. Electrolysis, in the hands of a qualified physician, is the only permanent and safe way of removing superfluous hair. It is, of course, possible to bleach the hair and thus make it less conspicuous.

Highly Antiseptic

yet doesn't sting in open wounds

Use in your own home
the antiseptic many hospitals use

HEXYLRESORCINOL SOLUTION S.T.37
LIQUOR HEXYLRESORCINOLIS 1:1000
12 FLUID OUNCES
S&D
SHARP & DOHME
HEXYLRESORCINOL SOLUTION S.T.37
DIRECTIONS
Use in nose or throat after exposure or when there is irritation.
MOUTH WASH, GARGLE OR THROAT SPRAY: Use full strength or dilute with one to three parts of warm water. Odorless, pleasant to taste. Use twice daily.
NASAL SPRAY: Dilute with three parts of warm water.
CUTS, BURNS, SCALDS, ALL RAW SURFACES: Apply undiluted. If injury is painful, bandage lightly, keeping bandage wet with solution.
DENTAL USES: The use of Hexylresorcinol Solution S. T. 37 after each brushing of the teeth is recommended.
PRICE $1.00
SHARP & DOHME

- Stronger than carbolic acid in any usable solution—yet safe even if swallowed.
- Pour it at once into open wounds, cuts and scratches. It does not sting or burn even when used full strength. And remember to call the doctor if the wound is serious.
- Spreads into crevices of wound tissue more rapidly than many other antiseptics.
- Carries the Seal of the Council on Pharmacy and Chemistry of the American Medical Association.
- Among the hospitals using Hexylresorcinol Solution S. T. 37 are:

The Woman's Hospital of Baltimore; Washington, D. C., Emergency Hospital; New England Medical Center, Boston; New York Infirmary for Women and Children; Episcopal Eye, Ear and Throat Hospital, Washington, D. C.; The Pittsburgh Hospital; Grace Hospital, Detroit; Grace Hospital, New Haven, Conn.; Wesson Memorial Hospital, Springfield, Mass.; St. Luke's Hospital, Chicago.

Ask your druggist for the antiseptic many hospitals use—Hexylresorcinol Solution S. T. 37 (1:1000). The 50¢ bottle is now ⅔ bigger, and you get the $1.25 size for $1. Prices are slightly higher in Canada. Buy a bottle today!

HEXYLRESORCINOL SOLUTION S. T. 37 • *Made by* **SHARP & DOHME**

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

Fight Pneumonia—

It ravages with the speed of a forest fire

PNEUMONIA causes the death of approximately 100,000 people in this country every year. Many of these deaths result because the speed with which it attacks the patient is not matched by promptness of defense.

In rare instances, a person apparently in the best of health is stricken with pneumonia. But usually the disease is contracted by one whose vitality has been lowered by exhaustion or exposure, or who has been dragging himself around for several days through sheer will power or stubbornness, while suffering from a protracted cold.

During the critical stages of an attack of pneumonia the patient's chance of recovery often depends largely upon well-trained, faithful nursing.

There is a serum which is of great assistance in some types of pneumonia. It has helped to save many lives. If your doctor advises its use, have it administered at the earliest possible moment. Time is vital. A fire may be quenched when small, but becomes uncontrollable as a conflagration.

While victory over some diseases can be achieved only by months and sometimes years of patient resistance, the battle against pneumonia is usually won or lost in a comparatively short space of time—sometimes it is a matter of days or merely hours. Meet the speed of pneumonia's attack with greater speed in defense.

The Metropolitan will gladly mail, free, its booklet "Just a Cold? Or"—Address Booklet Dept. 234-Z.

METROPOLITAN LIFE INSURANCE COMPANY
FREDERICK H. ECKER, PRESIDENT ONE MADISON AVE., NEW YORK, N.Y.
© 1934 M. L. I. CO.

Do You Know—

1. What relation childhood diseases may have to heart disease in later adult life? *See page 110*
2. How appendicitis deaths can practically be wiped out by 1943? *See page 115.*
3. The chief cause of all overweight in children? *See page 118.*
4. The symptoms of trench mouth? *See page 157.*
5. Why beauty creams made of mixtures of cocoa butter and lard are dangerous? *See page 159.*
6. How public health nursing in industry differs from industrial nursing? *See page 139.*
7. Why Washington, supposedly in robust health, died from a simple cold following only a forty-eight hour illness? *See page 106.*
8. What the real danger is in leaving food in open cans? *See page 148.*
9. The proper first aid treatment for injuries received on the baseball diamond? *See page 121.*
10. In what respect the federal caustic poison law needs strengthening? *See page 129.*
11. The origin of the belief that medicine has no virtue unless it possesses a bitter taste? *See page 153.*
12. How parents may insure a safe milk supply for their families? *See page 124.*
13. When fried food is hard to digest? *See page 145.*
14. Why you should not worry when baby holds his breath when crying? *See page 137.*
15. How many bones there are in the body? *See page 162.*
16. What percentage of efficiency is now attributed to typhoid protection? *See page 143.*
17. The real danger of a woman continuing to work outside the home after marriage? *See page 132.*

TWENTY-FIVE years ago, when noses ran and kiddies sneezed and sniffled, relatives sympathized and considered the possibility of "chronic catarrh."

But in 1934 it is known that when sniffles persist, they can cause, or be the indication of, a serious infection of the sinuses. For this reason, such a condition should be carefully watched by a physician. Then if it does not respond to the usual treatment, he can have the sinuses examined with x-rays and proceed with a full knowledge of the situation.

When the early indications of disorders are disclosed, serious illnesses have much less chance to develop. So if you want to keep your family well, see that each member goes to your physician regularly. At least once a year have a thorough health examination—complete with x-rays when indicated.

• • •

Mail this coupon and we will send you the free booklet, "X-rays and Health," which tells the many ways in which x-rays can help to keep you well.

Have an Annual Health and X-ray Examination

EASTMAN KODAK COMPANY, *Medical Division,*
345 State Street, Rochester, N. Y.

Gentlemen: Please send me your free booklet, "X-rays and Health."

Name _____

No. & St. _____ **City & State** _____

THE CASE OF GEORGE WASHINGTON, ESQ.: A CLINICAL SKETCH

(Continued from page 109)

"No account of the weather from hence to the end of the month on account of my sickness which commenced with a fever on the 19th, and lasted until the 24th, and left me debilitated." This illness was evidently due to malaria. He was treated by his old friend Dr. Craik who prescribed for him liberal doses of peruvian bark.

In addition to the aforementioned severe illness there is occasional mention of some minor ailments, especially head colds or attacks of sore throat. He suffered now and then from a severe headache. On his way to Philadelphia to attend the Constitutional Convention, he dined, according to his diary, with Mr. Richard Henderson in Bladensburg, and lodged with Major Snowden; whereupon, "feeling severely a violent headache and sick stomach, I went to bed early."

It should be mentioned that as early as 1754 he had to have a tooth removed. The record shows that from that time on, he had to have frequent dental attention on account of aching or carious teeth, and that in 1772 he had a long siege with the dentist. Finally, so many teeth were lost that in 1789 he had a false set made for him by a French dentist, Dr. Le Moyeur. They were ill-fitting, and they gave an unnatural expression to his face. He had a new set made in 1796.

So much for the past health history of this illustrious patient. That part of the chart dealing with present conditions must now be filled in.

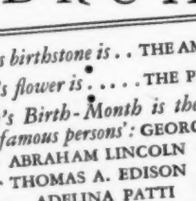
General Appearance.—There are several portraits of Washington made in the declining years of his life. The latest of which there is record is a profile head drawn by the French artist St. Memin in the year 1798.

Next latest of his portraits, strange to say, was one made in 1797 by Dr. Dick, one of the consulting physicians in his last illness. This portrait is seldom mentioned by the experts; but it is well authenticated, and the original is still in the possession of descendants of the physician-artist who are living in Maryland.

Most valuable, however, for present purposes is the portrait made by Williams in 1794 for the Masonic Lodge of Alexandria; it is still to be seen in the old lodge rooms of that city. It is said that the order was to make as perfect a likeness as possible. The lines of the face are faithfully reproduced, and one gets from it an impression of decrepitude.

If your Baby IS BORN IN FEBRUARY

Your baby's birthstone is . . THE AMETHYST
Your baby's flower is . . . . THE PRIMROSE
Your baby's Birth-Month is the same as these other famous persons': GEORGE WASHINGTON • ABRAHAM LINCOLN • VICTOR HERBERT • THOMAS A. EDISON • DANIEL BOONE • ADELINA PATTI • JOHN MARSHALL • SUSAN B. ANTHONY



WHAT if February *is* the shortest month—you're here and we're glad!

And now if you'll just go back to sleep for a minute we want to give your mother and dad a little message.

We just want to remind them that in a few months we hope they'll be Gerber customers. Not now, but soon doctors are going to be prescribing February Babies' first vegetables and solid foods.

We want parents to know that Gerber's must be better for Baby—or else so many doctors and pediatricians wouldn't prescribe them for Baby.

And they are better—they're the finest, freshest vegetables that can be produced. They're treated with most scrupulous care through every step of their processing. They're cooked with oxygen excluded so that those natural vitamin values—so essential to sturdy bones, strong white teeth and rosy cheeks—are retained in maximum degree. They're subject to heavy loss, you know, in ordinary home-cooking methods. And Gerber's are strained five times as fine as is possible with ordinary kitchen sieves.

Gerber's Cereal, prescribed by many physicians as Baby's first solid food, is one cereal that is especially prepared for tiny digestive systems.

There's a Baby Department at Your Favorite Store

You'll recognize the Baby Department of your grocery or drug store by the Gerber display around which it centers. It shows you at a glance the complete range of Gerber products—eight strained vegetables for Baby, and the popular new Gerber strained Cereal specially prepared for Baby.

Strained Tomatoes . . . Green Beans . . . Beets . . . Vegetable Soup . . . Carrots . . . Prunes . . . Peas . . . Spinach . . . 4½-oz. cans. *Strained* Cereal . . . 10¼-oz. cans . . . 15c.

Gerber's
9 Strained Foods for Baby
H-2

Gerber Products Company
Fremont, Mich.
(In Canada: Fine Foods of Canada, Ltd., Windsor, Ont.)

Please send me free copies of "Mealtime Psychology," by Dr. Lillian B. Storms and "Progress in Infant Feeding." (Enclose 10c if you would also like picture of the Gerber Baby by Dorothy Hope Smith, ready for framing.)

Name .....
Address .....
City ..... *State* .....

THE CASE OF GEORGE WASHINGTON, ESQ.: A CLINICAL SKETCH

Let me now quote some lifetime descriptions of his appearance in these later years.

Maclay wrote in 1791: "In stature about six feet, with an exceptional, but lax appearance. His frame would seem to want filling up; his motions rather slow than lively, though he showed no signs of having suffered by gout or rheumatism; his complexion pale, almost cadaverous; his voice hollow and indistinct, owing, as I believe, to artificial teeth before his upper jaw, which occasions a flatness."

The latest pen picture was presented by Isaac Weld in 1797: "His chest is full, and his limbs, though rather slender, well-shaped and muscular. His head is small, in which respect he resembles a great number of his countrymen. His eyes are of a light blue-grey colour, and in proportion to the length of his face, his nose is long. Mr. Stewart, the eminent portrait painter, told me that there were features in his face totally different from what he ever observed in that of any other human being; the sockets for the eyes, for instance, are larger than he ever met before, and the upper part of the nose broader. All his features, he observed, were indicative of the strongest and most ungovernable passions, and had he been born in the forests, it was his opinion that he would have been the fiercest man among the savage tribes."

Height, Weight and Form.—Although in his order to his London tailors, Washington gave his height as 6 feet, it was actually something greater.

In his recollections, Colonel Lear states that immediately after Washington's death he called on Dr. Dick for some measurements he felt were necessary for ordering the coffin, and he gives the length of the body as ascertained by Dr. Dick as 6 feet, 3 inches.

His weight in his last days was about 175 pounds. Washington himself is an authority that his weight had varied but little through life. It had generally ranged, for the most part, around 200 pounds, "never, even in my best days exceeding two hundred and twenty."

His figure, always very erect, had come toward the last to have a slight stoop. According to Parke Custis, his form was somewhat remarkable, in that lines dropped perpendicularly from the outside of the shoulders would pass along outside of the hips. His limbs were unusually long; his feet and his hands, as well as his joints, were

(Continued on page 177)

THE CASE OF GEORGE WASHINGTON, ESQ.: A CLINICAL SKETCH

(Continued from page 176)

unusually large. His chest, Custis says, was not of the full, rounded type but was flat and slightly sunken.

Special Measurements.—Some exact measurements, taken from the life mask made by the French sculptor Houdon, were ascertained by McDonald, sculptor, Boothe Theater, New York:

1. From chin to top of the head (center)	9¾ in.
2. From roots of hair to chin in front	7⅝ in.
3. Width of face at lobe of ears	5⅛ in.
4. Width of mouth	2 in.
5. From outer corner of right eye to outer corner of left	3 9/16 in.
6. Depth of head straight through	8¼ in.
7. Extreme width of shoulders in front	13¼ in.
8. Circumference of head	26⅞ in.

I call especial attention to the figure given for the circumference of the head. When one considers that a hat of so large a size as 7½ corresponds with only a 24 inch circumference, the figure given for Washington indicates a head of extraordinary size. This is all the more remarkable since in none of the descriptions is he mentioned as having a large head. Indeed, sometimes, as in Weld's description, he is said to have a head of small size. It must be that it appeared small in proportion to his very large trunk and limbs. I might, however, mention that Washington himself in ordering a hunting cap from London, specified "to fit a pretty large head."

Organs of the Head.—Eyesight somewhat affected but fairly well corrected by the use of glasses.

Difficulty of hearing, probably due to an extension of catarrhal inflammation from the throat into the eustachian tube.

Teeth lost, or removed on account of decay, replaced by ill-fitting denture.

Endocrine System.—What were in former days spoken of as body temperaments and designated by such terms as lymphatic, sanguine or choleric, to indicate their origin, are now generally regarded as expressions of the so-called endocrine system of the ductless glands.

Washington has been pictured for posterity as possessed of a stern, grave and forbidding disposition, with no touch of light-heartedness or merriment. A better knowledge of his habits of life teach otherwise. He was, in fact, naturally inclined to be convivial and at times even jocose, merry and very sympathetic. He enjoyed wit

(Continued on page 178)

HELLO, MRS. EVANS! I HAVEN'T SEEN YOU AROUND FOR A FEW DAYS. ANYTHING WRONG?
IT'S JIMMIE. I'M KEEPING HIM HOME FROM SCHOOL. HE CAUGHT A BAD COLD AGAIN—
—I HAVE A TOUGH JOB. HE JUST WON'T OBEY! RUNS OUT WITHOUT HIS COAT. "FORGETS" TO WASH HIS HANDS
DIRTY HANDS! THAT'S WHERE SICKNESS SO OFTEN STARTS. MY BILL WAS THE SAME WAY, TILL I DISCOVERED THE LIFEBUOY WASH-UP CHART. WHY DON'T YOU SEND FOR ONE?
LOOK, JIM. SEE WHAT I GOT FOR YOU
Lifebuoy WASH-UP CHART
GOSH, MOM! IT'S A GAME. EVERY TIME YOU WASH YOUR HANDS IT COUNTS A POINT. I'M STARTING RIGHT NOW
A MONTH LATER
PERFECT ATTENDANCE! NOT ONE DAY LOST THIS MONTH! WONDERFUL
WELL, JIM, YOU DESERVE THAT NEW BIKE I BOUGHT YOU. IT'S HIDING IN THE CLOSET

IF you've got your hands full making your youngsters "mind" about washing hands regularly—take this easy way out. Send for a Lifebuoy Wash-Up Chart, tack it up on the bathroom wall, and watch the complete transformation it works on grimy little "won't wash" hands! How quickly clean hands will become a *habit!*

Simply because this precious Chart makes a sport of a tiresome old duty! It's a game—with scoring, tallying and winner's buttons to add to the fun and interest.

Incidentally, the Lifebuoy Wash-Up Chart teaches a valuable lesson. Tells, in a pictorial story, *why* clean hands are so important—that hands pick up disease-breeding germs. (According to the Life Extension Institute, 27 germ diseases may be spread by hands.) It instructs children to wash hands often—*always before meals*—with Lifebuoy Soap. Because Lifebuoy's rich, penetrating lather removes *germs* as well as dirt, thus helping to protect health.

FREE to mothers—this wonder-working Wash-Up Chart. Also a school-size cake of coral-pink, clean-smelling Lifebuoy Soap. So fill in and mail the coupon below now, and put an end to dirty hands.

LIFEBUOY
HEALTH SOAP
for face, hands, bath

free

LEVER BROTHERS CO., Dept. 192, Cambridge, Mass.

Please send me, free, Lifebuoy school-size cakes and Wash-Up Charts for my——children.

*Name*_____

*Address*_____

*City*_____ *State*_____

THE CASE OF GEORGE WASHINGTON, ESQ.: A CLINICAL SKETCH

(Continued from page 177)

and witticisms, and he occasionally indulged in them himself. Marshall once saw him roll over on the ground from laughter over some episode that struck him as peculiarly ludicrous.

When he was ill, he was very pessimistic; but he rallied and became again hopeful after recovery. He had strong, but generally well controlled, emotions; on rare occasions, however, the reins were loosed. What an outburst of torrential anger on the head of General Lee for apparent cowardice at the battle of Monmouth! Yet what tenderness of heart to weep over the death-bed of his poor little invalid stepchild Patsy!

All considerations lead to the conclusion that he had active, properly functioning thyroid and other ductless glands; in other words, a well balanced endocrine system.

Summary and Conclusions.—An up-to-date clinical study of a case is not considered complete without the help of laboratory studies and of certain modern scientific instruments of precision.

I should like to follow up the leads in this case by the auscultation of the chest, the use of the laryngoscope, x-ray examination of the head and chest, and microscopic study of the blood. These being obviously impossible, it only remains to sum up the data and draw such conclusions as seem warranted in the premises.

The health impairment in this case may be considered as affecting especially three systems; namely, the gastro-intestinal system, as exemplified by the attacks of dysentery; the circulatory system, as a result of the persistent malaria, and the respiratory system, as shown by the susceptibility to colds in the head, throat and chest. All signs seem to point to the respiratory system as presenting the place of least resistance of the body or, as it is technically called, the *locus minoris resistentiae*.

It has been seen how frequently the mucous membranes of these respiratory organs were affected; and in some instances serious infections evidently occurred. Rhinitis, tonsillitis, pleurisy and pneumonia were named, but from the symptoms it is almost certain that there were also attacks of sinusitis. The frequent recurrence of coryza and the intense headaches point to this conclusion. The early decay of the teeth may have been connected with disease of the maxillary sinus or antrum. The attacks of rheumatism, or arthritis, might be explained as the result of absorption from the same source.

The presence of a focus of pus in any of the sinuses always predisposes to colds; and in such a case there is always a possibility of a supervening infection, such as the streptococcic. Because of his already shattered health, this would be a special danger to the patient under discussion.

Special Recommendations.—There is little value in a clinical study unless it includes some useful advice to the patient. Here is what the clinical chief might feel called on to say after reviewing his observations in this case:

"You must remember, Mr. Washington, that you are not as young a man as you once were, and certainly you are not as strong. Remember that you came of a family noted for their short life, their tendency to respiratory troubles, even to consumption.

"It is true that by your regular habits of life, especially your constant vigorous outdoor exercise, you have built up a marvelous constitution; but it is also true that harm may have resulted from strain, overexposure and bad hygienic situations. You have been through some serious illnesses which were bound to leave their traces; they have impaired your health and lowered your resistance. Your chief weakness is evidently in your respiratory organs. You have a marked susceptibility to colds and to serious inflammation in the head, throat and chest.

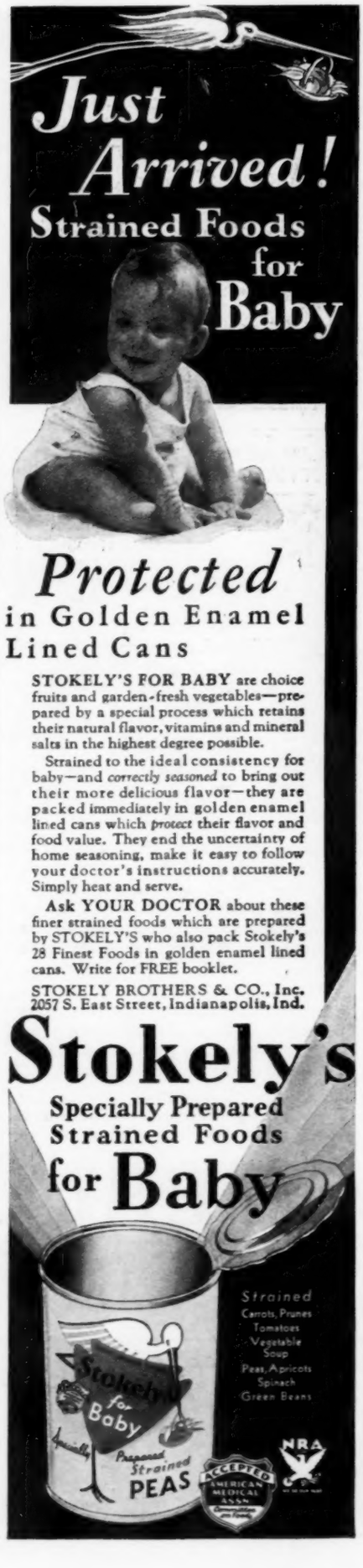
"It is our advice that you go in the beginning of the winter to a mild, warm, southern climate and remain through the season. If, however, you elect to remain in your Virginia home on the Potomac, it is important that you take every precaution against catching cold. Be especially careful to avoid undue exposure in cold, wet weather.

"If, in spite of all precaution, a cold happens to develop, then let us particularly advise that you take extraordinary care to keep it from extending or getting worse. In such an event, it is especially important that you do not go out in the cold but that you remain in the warm indoors, take warm drinks, a warm bath and a laxative, and go to bed."

EPILOGUE

On Thursday, Dec. 12, 1799, the weather being "very bad, rain, hail and snow falling alternately," Washington rode out to his farm as usual, leaving at 10 a. m. and not returning until after 3 p. m. His coat was

(Continued on page 180)


Just Arrived!
Strained Foods for Baby
Protected
in Golden Enamel Lined Cans
STOKELY'S FOR BABY are choice fruits and garden-fresh vegetables—prepared by a special process which retains their natural flavor, vitamins and mineral salts in the highest degree possible.
Strained to the ideal consistency for baby—and correctly seasoned to bring out their more delicious flavor—they are packed immediately in golden enamel lined cans which protect their flavor and food value. They end the uncertainty of home seasoning, make it easy to follow your doctor's instructions accurately. Simply heat and serve.
Ask YOUR DOCTOR about these finer strained foods which are prepared by STOKELY'S who also pack Stokely's 28 Finest Foods in golden enamel lined cans. Write for FREE booklet.
STOKELY BROTHERS & CO., Inc.
2057 S. East Street, Indianapolis, Ind.
Stokely's
Specially Prepared Strained Foods for Baby
Strained
Carrots, Prunes
Tomatoes
Vegetable Soup
Peas, Apricots
Spinach
Green Beans
Stokely's for Baby
Prepared Strained PEAS
ACCEPTED
AMERICAN MEDICAL ASSN
NRA

LULLABY

Sleep and rest, sleep and rest,
Father will come to thee soon;
Rest, rest, on mother's breast,
Father will come to thee soon;
Father will come to his babe in the nest,
Silver sails all out of the west
Under the silver moon:
Sleep, my little one, sleep, my pretty one, sleep.

—*Alfred Tennyson*

PROTECTED AT THE SOURCE . . . FOR BABY'S SAKE

When Baby takes his bottle like a little man, and then drops off, on the instant, into deep contented sleep—he *knows* his food is good, and so do you.

But perhaps you don't know *how* good is this Carnation Milk that so many baby specialists prescribe in their formulas, and that agrees so well with *most* kinds and conditions of babies.

It is, in fact, a *superior* milk. It comes from selected herds of "Contented Cows," regularly inspected by our field men to make sure that the cows are cared for, and the milk handled, according to Carnation standards. It costs us a vast sum every year, just to give Carnation Milk this added *protection at the source.*

We have, too, our own experimental farms where we raise pure-bred cattle which have set world's records for milk and butter production—so that we may be able to help dairymen to improve *their* herds of "Contented Cows" and produce better milk for Carnation.

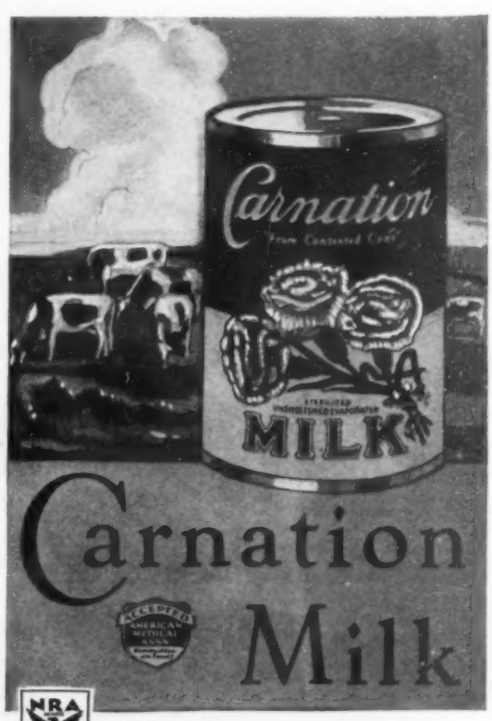
Aren't these things worth knowing when you buy a food as vitally important as milk? Remember this—you can't *pour out* of a can any better milk than the producer *puts in.* So—*be sure* of what is behind the label on the milk you buy.

And bear this in mind: If Carnation is a better milk for *babies,* it must be better for "growing-up" babies and children *to drink;* and for *every* household use. Try it—you'll like it in every way.

Write for "100 Glorified Recipes" and "Contented Babies." Carnation Company, Milwaukee, Wis.; Seattle, Wash.; Toronto, Ont. . . . TUNE IN Carnation "Contented Hour." Monday evening, NBC. Coast to coast. Carnation orchestra, male quartet, Lullaby Lady.

★ A CONTENTED BABY—"I worried along nursing our baby nine weeks till my doctor finally convinced me that I should try Carnation Milk. After one bottle she slept all night—changed as if by magic! Now at five months she weighs 22 pounds and is full of pep and contentment."—Mrs. C. J. Goodearle, Oconomowoc, Wis.

★ INTERESTING FACTS—Carnation is just pure whole milk evaporated to double richness. Nothing added. Vitamins natural to milk, and other food elements, retained. Super-digestible for babies; fine for growing children. Ideal for cooking and for creaming coffee and cereals. Most convenient for every use; and *very* economical.



"From Contented Cows"

THE CASE OF GEORGE WASHINGTON, ESQ.: A CLINICAL SKETCH

(Continued from page 178)

wet, and snow was clinging to his hair.

Being late, he sat down to dinner without changing his clothes. The next day he showed signs of having contracted a cold. Although the weather was still bad and heavy snow was falling, he went out again in order to mark some trees he wanted to have cut down. In the course of the day his hoarseness increased; but he made light of it, had some papers brought to him, and read aloud as well as his hoarseness would permit. Now, seeing that the cold was growing worse, his secretary, Colonel Lear, suggested that he take something to remove it; but the patient answered, "No, you know I never take anything for a cold. Let it go as it came."

Every one knows the rest: the swift, relentless progress of the disease, the evidence of a streptococcic infection, the edematous swelling of the larynx, the painful swallowing, the labored breathing and the agonizing death from suffocation.

Was it necessary? I once hazarded the opinion that had the great father of his country had the benefit of the wonderful advance in medical and surgical knowledge that has come since his day, this illness could probably have been overcome.

I now dare conjecture that could he have had, beforehand, the benefit of modern hygienic science, and had he faithfully followed it, such a severe illness would probably not have arisen.

Fortunately for posterity, Washington overcame the health handicaps of his early years and was able to take command of the great struggle in defence of his country and the rights of man. He lived long enough to see his countrymen happily placed under a wise and beneficent government.

It is, however, sad to reflect that things could not have been so ordered that he might have had for himself a little longer evening of life at his own fireside, to enjoy the peace and tranquil content that he had always so ardently desired and had so richly deserved.

It is not a soul, it is not a body that we are training up; it is a man, and we ought not to divide him into two parts. [We should] allow more time for, and take more care of, exercises for the body, and believe that the mind in a good proportion does her business at the same time.

—*Montaigne.*

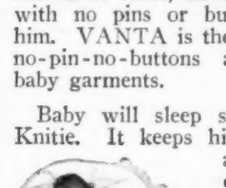
FOR BABY ONLY THE BEST

Vanta

Sterilized Baby Garments

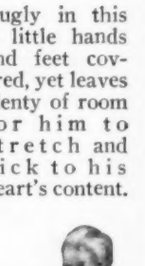
Mother! Your baby should have the very best. The garments that go next to his tender skin are fully as important as his diet. They should be soft, not irritating—they should be clean, dainty underthings with no pins or buttons to hurt him. VANTA is the originator of no-pin-no-buttons and sterilized baby garments.

Baby will sleep snugly in this Knitie. It keeps his little hands and feet covered, yet leaves plenty of room for him to stretch and kick to his heart's content.



Vanta Knit-Knitie

In warm weather wool often irritates baby's chest and back. The VANTA K-band with its lisle top and lisle-wool bottom is just the thing for him, and the reinforced tabs at the bottom make it easy to fasten on his diapers.



Vanta K-Band (Pat.)

In the making of Vanta baby garments everything is done with the thought of baby's health and comfort. Every garment for tiny babies is steam sterilized and sealed in baby blue cellophane window packages. The seal is broken only when you open the box.

Write for free booklet, "Baby's Outfit." Contains helpful information for mothers and suggestions for names of boys and girls.

"Next to your Baby—There's nothing like Vanta"

Vanta Sterilized Products

Earnshaw Knitting Company

Newton, Massachusetts

HEARTS IN THE BREAKING

(Continued from page 113)

does not include the thousands of wives who, in pursuit of those duties which they may classify as household drudgery, acquire heart muscle tone which may result in their outliving their golf-playing husbands. The potential cardiac victim who is fond of mild outdoor exercise, whether it is golf or gardening, may be said to have a thousand chances for increasing his expectancy over his more sedentary brother. Unfortunate, indeed, are the men and women who in advanced years find themselves without a hobby which requires some exercise in mild or regular form. All the more fortunate are they if their hobby must be followed outdoors.

It is impossible to discuss heart disease without making reference to the miraculous manner in which the human heart performs its physiologic function. Here is an organ which is never completely at rest; on it all other organic structures depend for their life's cycle. The only opportunity accorded the heart for rest and repair is during sleep. When disease invades the body, the heart makes the fight. When severe insults to the central nervous system occur, the heart receives a large amount of the shock. Whether it records fatigue, systemic poisons or exhilarations, the "lub dub" sound beneath the left breast is the intonation of the person's attachment to the universe.

When the tendency to lost heart muscle tone, elasticity or reserve develops from any cause, the empiric treatment is rest plus medication. The prevention of heart disease is rest. The recuperative powers of the heart are quite as marvelous as is its function. During middle life and with advancing years the habit of resting the heart daily is an excellent rule. No better prescription for affording the heart this opportunity can be found than lying down for a short time during the noon hour. If sleep accompanies the rest, so much the better. There are those who will say, "I could not rest during the day." That is a false statement.

The best health insurance which many tired, overworked business men could have would be a couch in the office, where a midday rest and sleep could be taken. Lazy? No, merely sensible. Of course, if preceding the rest a dinner-sized lunch is eaten, the heart is deprived of the opportunity to accumulate reserve. Some light, easily digested food, followed by sleep, will lighten the burden on many overloaded hearts. Mental fatigue and worry are responsible for much heart dis-

ease. The art of leaving business problems at the office instead of taking them home as bed companions will likewise improve the physical condition of many active and potential cardiac victims. Learning how to relax seems to be a difficult task for the majority of Americans during the present age. They become so accustomed to being keyed to a high pitch that even in recreational activities the prevailing spirit of competition and speed frequently thwarts the beneficial effect of whatever form of recreation or play is chosen.

During the past twenty-five years there has developed a very prolific group of so-called high powered business men and women; in fact the tendency to speed up has invaded almost every class of society. Persons who inhabit rural districts live at the present time under high tension which a generation ago would not have been equaled by the most rapid pace of urban society. In short, wherever one turns one views life in a competitive form. Children are even taught in the home, schools and on the playground to show more "pep." "Pep up, pep up" is the slogan of the day. Is it unusual to expect that human hearts which never rest are registering solemn protests? The rôle which overfatigue and so-called nervous exhaustion play as causative factors in heart disease is more far-reaching than the present generation suspects.

From the standpoint of cardiac conservation, one who is hygienically minded will reduce the speed of his life after the compensatory mechanism shows signs of failing. For example, he will retire an hour or two earlier in the evening or, if possible, get up an hour later in the morning. For those who are so situated that they may take the needed rest, even a half day or a day spent in bed will give many a worn heart a much needed vacation.

All this advocated rest cure for the prevention of heart disease sounds so simple that it has rather a tinge of foolishness about it. No doubt many of those who have played their part in cardiac mortality felt the same way about their hearts. Those who believe in a short life and a merry one will consider their time lost in reading this article. As one nears middle life or passes beyond it one may increase life expectancy, as well as make life more enjoyable, by developing a heart conscience. This does not mean making the dreadful mistake of becoming a cardiophobiac, for most cardiophobiacs live too long and get little enjoy-

(Continued on page 182)

5 THINGS EVERY GROWING CHILD NEEDS
—for a strong, sturdy body

1. CARBOHYDRATES are needed by the busy, active youngster for vital energy.
2. FATS are needed, in easily digestible form, for reserve energy and for weight.
3. PROTEINS are needed for the development of solid flesh and strong muscle.
4. MINERALS, such as calcium and phosphorus, are needed for strong, straight bones, and sound, even teeth.
5. VITAMINS are needed, particularly Vitamin D, which helps to utilize efficiently calcium and phosphorus in the development of the bones and teeth.

THIS DELICIOUS FOOD-DRINK GIVES YOUR CHILD THESE 5 ELEMENTS

COCOMALT mixed with milk provides the 5 elements a child needs and *must have* to grow strong, straight, sturdy, with properly formed bones and teeth. Not fats and carbohydrates alone—but proteins, minerals (food-calcium and food-phosphorus) and, especially significant, Sunshine Vitamin D.

Prepared as directed, Cocomalt adds 70% more food-energy to milk. Thus every glass of Cocomalt and milk your child drinks is equal in food-energy value to *almost two glasses of milk alone.* No wonder children thrive so on this delicious, easily digested food-drink!

Rich in Sunshine Vitamin D

The rich Sunshine Vitamin D content of Cocomalt *has been added by special process,* and under license by the Wisconsin University Alumni Research Foundation. Every cup or glass of Cocomalt, properly prepared, is equivalent in Vitamin D content to not less than two-thirds of a teaspoonful of good cod-liver oil. Sold at grocery and good drug stores in ½-lb., 1-lb. and 5-lb. airtight cans. In powder form only, easy to mix with milk—delicious HOT or COLD.

Special trial offer: For a trial-size can of Cocomalt, send 10c (to cover the cost of packing and mailing) to R. B. Davis Co., Dept. 9-B, Hoboken, N. J.

Cocomalt is accepted by the Committee on Foods of the American Medical Association. It is a nutritious food composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Sunshine Vitamin D.

ACCEPTED AMERICAN MEDICAL ASSN.

Cocomalt

Prepared as directed, adds 70% more food-energy to milk

HEARTS IN THE BREAKING

(Continued from page 181)

ment out of life. The economic crisis through which this country has been passing has been held responsible for nearly everything from decline in the birth rate to prohibition repeal. Consequently the additional accusation that the depression is a cause of heart disease may be added without fear of contradiction. No doubt in a certain percentage of the country's population, worry, mental anxiety and lowered standards of living with accompanying malnutrition will, either directly or indirectly, cause an increase in the number of cases of heart disease.

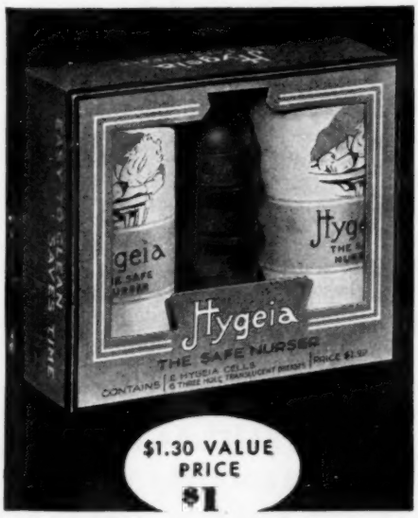
Yet the reverse is equally as likely to happen. Primarily the speed of many persons has been reduced. Through force of circumstances their activities have been curtailed; this means everything from speeding in the family car to rushing through too many highballs and too much food. Many leg muscles are now in use which were almost in a state of atrophy; many stomachs are required to digest only plain food in reduced quantities. Consequently many heart muscles are enjoying a compulsory restful and hygienic program.

Another cheerful note in the cardiac picture resulting from the economic situation is the back-to-the-land movement. Unquestionably thousands of persons who had migrated from rural districts to urban centers during the industrial boom have now returned to the open country, where an opportunity is given them to derive a living from the soil. The financial rewards in comparison to those received in industry will be practically nil. The returns in health and physical reserve will be great. In fact, when a sufficient number of those persons who are still marooned in municipalities have returned to rural life, they may be thought of as the citizens chosen to go forth and replenish the heart muscle reserve; for outdoor work, with regular hours for sleep and rest, accompanied by a plain nourishing diet, made the hearts of our ancestors last longer than do the hearts of the present generations.

There are numerous "high speed" citizens today who are still in the mad race because of their inherited heart muscle reserve and not through any effort of their own to conserve it or pass it on to their progeny with an increased tone. Hearts will continue to break more and more rapidly unless the speed of the twentieth century citizen is reduced or the reserve is replenished in open spaces.

TO MOTHERS of nursing babies

This complete nursing outfit at Bargain price



2 EIGHT OZ. BOTTLES
5 TRANSLUCENT NIPPLES

Bought individually, these Hygeia Breast Nipples and Bottles would cost $1.30. In this cellophane-wrapped, attractive package they cost $1.00. Try this complete nursing outfit . . . an ideal gift. Your druggist has just received his supply.

ONLY Hygeia Bottles and Nipples combine *all* these advantages: The nipple is shaped like mother's breast; patented re-enforced base prevents nipple collapsing; patented tab keeps fingers from sterilized inner surface. The wide-mouthed bottle is easily cleaned and filled, without brush or funnel. It has a smooth rounded inner surface. It takes up no more room than an ordinary bottle. Guaranteed against all temperature changes.

If your druggist cannot supply you with the new Combination Package, mail coupon with dollar.

Hygeia
NURSING BOTTLES AND NIPPLES

HYGEIA NURSING BOTTLE COMPANY
197 Van Rensselaer Street, Buffalo, N. Y.

Enclosed $1 for package containing two 8-oz. Hygeia Bottles and five Translucent Nipples.

Name.....
Street.....
City.....*State*.....

SEX EDUCATION SERIES

(Continued from page 135)

so much that they cannot be expected to make a permanent investment of this form. Then there are instances in which it is much cheaper to rent or in which the family cannot accumulate enough money to make the initial payment. With these few reservations I believe that a family will be more secure and more self reliant, if it is living in a home that is owned or is in the process of being acquired by the family. I have in mind a group of children who were exceedingly careless and destructive of the landlord's property but were compelled to treat their own new home in a much more respectful manner. It makes a difference whose wallpaper is being marked. Owners usually take greater pride in a piece of property than do renters. When the husband and wife have a piece of property, there is much less likelihood of a separation which may be disastrous to the children. Communities of home-owners are far less radical and more patriotic. Community loyalty grows directly out of investment in that community. It is much better for children to be raised in a home in which the father and mother are the owners and the responsible heads. The location of the home is also of the greatest importance from the standpoint of the welfare of the children.

One of the biggest questions which the young couple must decide is that concerning children. Will there be children? If so, how many? Of course, from the standpoint of the present discussion a marriage without children is hardly a marriage at all. It undoubtedly has important social purposes; it serves the convenience of the two persons; it affects certain property rights, but it does not accomplish the main function of the institution. There are, to be sure, many excellent reasons why a given couple should not desire children at a particular time, and there are even reasons why they should not have them at all. There is, for example, the couple who dare not have children because of some hereditary taint. They act wisely in taking precautions which will prevent children. On the other hand, it is most unfortunate that they did not find out about such matters before marriage and act accordingly. A given couple may feel that the health of one or the other is such that the burden of parenthood should not be added. This is, of course, a legitimate reason. Many of these persons were ill before marriage and were really unfit for marriage. The economic position

of the family is often such that children might be endangered by being brought into the home at such a time.

A great deal of fuss is being made concerning the cost of bearing and rearing children. Much of it is quite unnecessary. A recent book sets the bill for having a baby at $750. The doctor's bill is put at $250, which must mean that a specialist of a high order was had. The great majority of cases do not need more attention than the general practitioner of medicine can give. Three weeks in a hospital at $10 a day was deemed necessary, though ten days at $5 a day is as much as is usually needed except by those who need not consider the cost. A night nurse and a day nurse for three weeks were included in the cost. Few cases need a special nurse, for the floor nurse furnished by the hospital is sufficient for all ordinary purposes. Many other unnecessary expenses were listed.

Much is being said about the cost of raising children, and most of it is foolishness. The elemental needs of a child are not expensive. It is the attempt to maintain an impossible standard of living that saps the pocketbook. If the standards of living were high in moral and cultural values, I could defend them; but fine and noble thoughts are just as inexpensive as they ever were. Good manners and pleasant speech do not cost a cent. Good books, music and educational advantages are available for the masses, whereas they were formerly only for those with money. The advantages of churches, schools, libraries, public parks, Boy Scout organizations and a score of other agencies are certainly not expensive. The companionship and inspiration of a real father and mother are probably the most important factors in the life of a boy or girl and are perfectly free. The young couple with children will have to discriminate between bread and cake for their children. Cake is tempting, but the children thrive better on the plainer fare. It is no exaggeration to say that it is often cheaper to have children than not to have them. Extravagant tastes, trips, parties and the like can easily become an expensive habit when there are no more fundamental responsibilities to take the attention of the couple.

I have no desire to say what shall be the size of the family which a given couple should seek. Circumstances must be consulted. I wish merely to call attention to the fact that it requires an average of more than three children to the couple

NIVEA BORROWS FROM NATURE

—to keep your skin smooth and fresh!

THE new liquid cream, Nivea Skin Oil, takes a leaf from Nature's book on skin care. Its softening, soothing action defeats the damaging effect on your skin from sudden temperature changes of winter weather... brings back your skin's freshness and smoothness *naturally*, because it contains an element related to the skin.

The element is Eucerite, found in no other product of this kind. It is similar to skin-cholesterol which acts as a lubricating substance.

When your skin's normal supply of this lubricant is lost by work or exposure, Nivea Skin Oil quickly replenishes it and prevents and heals dry, rough hands, or chapping and cracking of your skin. It is very economical. Simple to use—gently rub the oil into the skin. Excellent for your complexion as powder base, night cream and cleanser.

Send the coupon below for a generous free bottle of Nivea Skin Oil

NIVEA SKIN OIL

Trade Mark Reg. U. S. Pat. Off.

P. Beiersdorf & Co., Inc., Dept. H-2
46-10 11th Street, Long Island City, N. Y.

Please send me a free trial bottle of Nivea Skin Oil.

Name.....

Street.....

City.....State.....

for a given stratum of society to maintain itself numerically. Any family of less than four is, then, on the average, falling behind. This is a serious matter or not, according as the group is or is not a useful one. Unfortunately, those families which should have no children usually have many, and, as a rule, those which might be expected to bear and rear superior children have few or none. The loss to society is great, and the loss to the individuals themselves is even greater.

For those couples who cannot for some reason bear children there are infinite possibilities in the adoption of orphans. With care the adopted child who has come from a good family has an even chance with the blood descendant of the same age and physical opportunity. It cannot be shown that adopted children turn out worse than others. Couples without children may also satisfy their parental instincts and do a great service by taking up some phase of work which has to do with the welfare of children and young people. Countless examples might be given. "Suffer little children to come unto Me and forbid them not, for of such is the Kingdom of Heaven" is no idle dogma. It is the essence of life.

The care of the children after they are born is enormously important. I have no intention to discuss it in detail in this place, but I wish merely to mention it as being a part of the program of reproduction. Great progress has been made in the care of children in recent years, and as a result few of them are dying, although almost three fourths of them have some sort of physical defect. The aid of a competent physician is essential, but the most important thing is a sensible father and mother. During the past few years much has been learned about the proper handling of children, but with it there has been an increased amount of coddling which has probably done a great amount of harm. The formation of good habits and the development of character are of the utmost importance. For the most part these are products of home life and cannot be entrusted to the school, the church or any other institutions, although these organizations may aid greatly. An example is seen in a mother recently observed at a ball game. A foul ball fell in the grandstand, and a 10 year old boy got it. He gave it to his mother, who sat on it. When she was asked to give it up, she declared that she did not have it. As she left the park, she carried it concealed under her arm. A con-

(Continued on page 184)

The A.P.-UPLIFT

U. S. Pat. 1,702,922 —Invented by Mme. Poix to create the stylish upward contour; to relieve pain and remove cause of many bust troubles; also for pre-natal and nursing periods.

Sizes 30 to 44
Pink Repp.....$1.00
Pink Tussah Silk... 1.50
Pink Mesh or Jersey 2.00

If not at dealers, order direct giving exact bust measure next to skin. Booklet free on request.

G. M. POIX, Inc.
103 Madison Ave.
New York, N.Y.

SEX HABITS
A VITAL FACTOR IN WELL-BEING
By A. Buschke, M.D., and F. Jacobsohn, M.D.

"Frank, fearless and sensible; the whole problem of the sex instinct is surveyed concisely and sagaciously."—Montreal Star. "Gives those facts essential to a correct understanding of sex."—Medical Times, London. ". . . the sanest and most practical views on sexology and sexual hygiene that can be found. . . . The description is accompanied by a set of beautiful photographs of the various organs."—Glasgow University Pub.

208 Pages Price $2.50
At bookstores or direct from
EMERSON BOOKS, Inc.
Dept. -HH 14.
333 Sixth Ave., N.Y.C.

Schools and Camps

Schools for Backward Children

Beverly Farm (INC.) *A Home and School for Nervous and Backward Children and Adults*

220 acre farm. 7 bldgs. New school gymnasium. 35th year. Industrial and school training given. Dept. for birth injury cases. GROVES BLAKE SMITH, M.D., Supt. **Godfrey, Ill.**

<> TROWBRIDGE TRAINING SCHOOL <>

Home school for nervous, backward children. *Best in the West.* Beautiful buildings. Spacious grounds. Experienced teachers. Individual supervision. Resident physician. Enrolment limited. Endorsed by physicians, educators. Booklet. E. Haydn Trowbridge, M.D., 1810 Bryant Bldg., Kansas City, Mo.

Elwyn Training School
FOUNDED 1852

A private non-sectarian school for the education and training of children whose minds have failed to develop normally.

Nineteen major buildings, four hundred and forty acres, faculty of nineteen specially trained teachers, resident staff of three physicians. Booklet on request.

E. A. WHITNEY, M.D.
Elwyn, Delaware Co., Pennsylvania

HEALTH TEACHING PLANS FROM HYGEIA

Teachers, write to Hygeia for a free copy of this 48-page book. It contains 27 projects on health teaching from Dr. Andress' department, "School and Health."

SEX EDUCATION SERIES

(Continued from page 183)

siderable portion of the crowd who observed the incident thought that she did right and that she was a real "sport" to be so anxious to get a good ball for her boy. A father whipped his boy for lying to him, and then he himself lied to the street-car conductor to save paying the boy's fare. Such parents completely frustrate the purposes of organized society.

A great deal of attention has been given to the matter of nutrition in recent years. Vitamins, calories, balanced rations and a dozen other technical terms are on all lips. Actually the problem is much simpler than is commonly supposed. An abundance of a wide variety of clean, well prepared but not too greatly denatured food is all that is necessary from the strictly physical standpoint. An attractive dining room and a jolly father and mother may be more important in the nutrition of a child than is the actual food. The mood in which one eats is more important than the food one eats. Malnutrition has been variously ascribed as being due to this and to that, but sober analysis will reveal the fact that most malnourished children are so because of the lack of intelligent parental control. They eat when and what they please; they sleep or get up when they please; they lack system and regular habits; they object to having such medical, surgical and dental work done as is needed, and the parents accede to their wishes. They rule the house, and in such cases the house is badly ruled. On the other hand, there are children who are being pestered to death by too zealous mothers who never for a moment allow them to forget the technic of living. These matters are mentioned here because they may defeat the purposes for which sex has been striving. There is not a whit of sense in supposing that sex and reproduction are concerned only in the conception and birth of the child. The sowing of the seed is necessary, of course, but the care of the crop is quite as important in order that there may be a harvest, which is, of course, the real reason for the whole process.

There are times in every family when it is considered expedient that children shall not be born in the immediate future. Improper methods of prevention may injure health or may fail to accomplish their purpose. At such times the family physician is a suitable adviser.

Much of the difficulty in the proper evaluation of these matters

(Continued on page 186)

Elmo **BEAUTY PREPARATIONS for PURITY**

For dependable purity, try Elmo toilet preparations. They are as pure as it is humanly possible to make them, and contain no ingredient that could possibly harm the normal skin. Purity is paramount in Elmo preparations.

Give your skin the benefit of these pure cosmetics. Elmo Cucumber Cream will protect it from cold winds. Elmo creams will keep it soft and smooth. Elmo Ra-Lo Face Powder will give it a natural freshness.

Ask for Elmo toiletries. There's one for every beauty need. And you can depend upon their purity.

At Drug and Department Stores

ELMO - - -
RA-LO LOTION
TISSUE CREAM
MELTING CREAM
SKIN FRESHENER
CLEANSING CREAM
CUCUMBER CREAM
TONIC ASTRINGENT
RA-LO FACE POWDER

ELMO, Incorporated
21st Street and Hunting Park Avenue
Philadelphia - - Pennsylvania

INVALUABLE AID *In Relieving* **PAIN**

Stays Hot 12 Hours
Prepared with 1 oz. of hot water

"OVR-NITE" Heating Pad
(Reg. U. S. Patent Office)

Invaluable wherever heat applications will relieve pain or congestion, as in neuritis, rheumatism, lumbago, menstruation; also for keeping hot compresses hot. Ready for use in 2 minutes. Stays uniformly hot for eleven hours. Soft, pliable, no possibility of leakage. Life of pad guaranteed to be 120 hours.

Sent prepaid with washable rubberized cloth cover, 65c

Additional pads without rubber cover, 55c each, prepaid

GEORGE J. YORE & CO., SOLE MFRS.
201 Traders Bldg.
309 S. La Salle Street - CHICAGO

FREE!
Six Safety Posters with each year's subscription

Posters! Stories! Plays! Lesson Plans! Informational Articles!

An excellent publication for both teacher and pupil. Devoted to practical safety teaching material presented in a modern manner.

SAFETY EDUCATION MAGAZINE
$1.00 A Year
One Park Ave. New York

ASTONISHING BEHAVIOR OF MR. ELLSWORTH FUTTY AFTER LEARNING ABOUT POST'S 40% BRAN FLAKES !

IT'S THE FIRST TIME HE'S SHOVELLED SNOW IN 16 YEARS !
LOOK WHAT IT'S DONE FER TH' OLD MAN !
F. Fox
!
Everybody gets a grand flavor "kick" out of Post's 40% Bran Flakes—because it is a *different kind* of cereal!

Really Now, Mr. Fox!

A Delicious Cereal
Post's 40% BRAN FLAKES
WITH OTHER PARTS OF WHEAT
MALT SYRUP, SUGAR AND SALT
THE NEW CRISP PACK
A Gentle Laxative

Don't you think you were carried away somewhat when you drew this picture?

WE understand your enthusiasm, Mr. Fox. But—all we really wanted to say is this: A lot of people who are listless, logy, who "don't know what's the matter with them" are suffering just from a sluggish intestine—often caused by lack of bulk in the diet. And often things perk up surprisingly when this trouble is corrected.

We'd like to have these people try Post's 40% Bran Flakes With Other Parts Of Wheat. It's as fine tasting a cereal as ever you ate. Many people say the finest!

And it contains bran for that bulk we mentioned—bulk to keep food wastes moving along the intestinal tract. To help keep you regular—and fit.

Since you'll find Post's 40% Bran Flakes a perfectly swell cereal anyhow, why not eat it regularly for awhile? It may do you a lot of good, too. Your grocer has it—and it costs little. It is a product of General Foods.

© G. F. Corp., 1934

SEX EDUCATION SERIES

(Continued from page 184)

lies in the fact that common opinion takes it for granted that sexual appetite is something that cannot be controlled. It is astonishing how many people suppose that a "red-blooded" man is utterly at the mercy of any sexual wind that may chance to blow. The attitude of irresponsibility for sexual misconduct is a convenient alibi for those who have not the strength of character to stand by their guns. Such irresponsibility is not a strong and manly force but is a sign of weakness in those who cannot or will not be strong. It is not smart or clever, nor is it evidence of broad-mindedness; it is striking at the very heart of society, the home, and that most divine of all emotions, love.

Marriage is not a lark. There is no more serious business in all the world than that of building a home and rearing children. Prospective husbands and wives should be fully matured before undertaking the honorable responsibilities that come to those who assume the social and biologic status known as marriage. There is altogether too much rushing into marriage as though it were a week-end party, and then regretting the step when the going gets a bit rough. It is no task for play-boys and silly girls. It is the biggest job in the world.

[NOTE.—In the March HYGEIA, Dr. Rice will continue his discussion of sex education.]

THE SOUND OF A CHILD'S LAUGHTER

One thing yet there is, that none
Hearing ere its chime be done
Knows not well the sweetest one
Heard of man beneath the sun,
  Hoped in heaven hereafter;
Soft and strong and loud and light
Very sound of very light
Heard from morning's rosiest height,
When the soul of all delight
  Fills a child's clear laughter.

Golden bells of welcome rolled
Never forth such notes, nor told
Hours so blithe in tones so bold,
As the radiant mouth of gold
  Here that rings forth heaven.
If the golden-crested wren
Were a nightingale—why, then,
Something seen and heard of men
Might be half as sweet as when
  Laughs a child of seven.

—*Swinburne.*

The greatest of follies is to sacrifice health for any other advantage.

—*Schopenhauer.*

NURSING BRASSIERES

by

Maiden Form

GIVE YOU SECURITY and COMFORT

Ask your doctor about the need for proper bust support during the nursing period. . . . . .

Both these brassieres are made with absorbent shields, rubber lining that cannot touch skin; holders for pads of sanitary gauze; and adjustable shoulder straps.

Above: Short bandeau of flesh-colored porous mesh, opens at shoulder straps for easy access to the breasts, No. 382.....$1.25

Right: Long brassiere with wide diaphragm band, elastic gussets. Back fastening with extra front opening for nursing. Flesh colored porous mesh. No. 7005.....$2.00

Maiden Form also makes a MATERNITY BRASSIERE constructed with the same scientific care as the nursing brassieres.

If your dealer cannot supply—Write Dept. HF

MAIDEN FORM BRASSIERE CO., Inc.

New York, New York

Excellent—LUCKY BREAKFAST FOOD—Nutritious

A FARINA—made from the CREAMY part of the WHEAT with FINE BRAN added.

For CHILDREN—Contains 0.7 per cent crude fiber which helps to counteract constipation due to insufficient bulk in the diet.

For ADULTS—Contains considerably more calories, weight for weight, than are found in eggs, white or whole wheat bread.

Accepted by American Medical Ass'n, Committee on Foods

Write for Free Sample

FEDERAL MILL, INC., 400 Race St., Lockport, N.Y.

Cosmetics and Allied Preparations

A pamphlet of 32 pages which should lie on the office table within easy reach of waiting patients. This is a much needed treatise on nostrums of the cosmetic type widely advertised, and sold indiscriminately to the public. Give your patients the benefit of reading this booklet. Price 15 cents. *Ask for a complete list of Nostrums and Quackery pamphlets.*

AMERICAN MEDICAL ASSOCIATION

535 North Dearborn St., CHICAGO, ILL.

The SEX TECHNIQUE IN MARRIAGE • By I. E. Hutton, M.D.

"Dr. Ira Wile describes the book as a clear, succinct, non-emotional, authoritative and conservative exposition of the practical factors involved in making marriage successful on the sexual level. That describes the book exactly . . . It is primarily concerned with the conduct of the honeymoon and with the technic of the sexual performance." —Hygeia.

Acclaimed by the Medical Press Everywhere

At bookstores or direct from **Price $2.00**

EMERSON BOOKS, Dept. -TH 14, 333 Sixth Ave., N. Y. C.

EDUCATION BRINGS BETTER OBSTETRIC CARE

From 17,000 to 20,000 women die annually in the United States as a result of the child-bearing process. One third of these deaths are due to sepsis and one third to toxemia, both of which should be largely prevented. This statement, made in the *Bulletin of the Indiana Division of Public Health,* is issued not as a means of alarming the public but rather as a statement of statistical facts showing what good obstetric care can do.

The statement is followed up with these points for educating men and women concerning the importance of obstetrics:

1. Educate men to know the importance of the child-bearing process.

2. Educate women to go to the doctor early in pregnancy. Educate them to select a doctor known to give good care in obstetric cases and to go regularly to see him.

3. Educate women as to what good obstetric care means.

4. Educate them as to delivery care and what constitutes good after-care.

5. Educate them as to diet, exercise, sleep, rest and general prenatal care.

6. Educate them to realize that all pregnant women need good care throughout pregnancy, labor and puerperium.

7. Educate them to know that the best American stock is decreasing; that motherhood should be one of woman's greatest hopes, and that if the mother is properly cared for during child-bearing there should be little to fear.

THE PHYSICIAN

There are men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marveled at in history, he will be thought to have shared as little as any in the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments, and what are more important, Herculean cheerfulness and courage. So it is that he brings aid and cheer into the sickroom, and often enough, though not so often as he wishes, brings healing.—*Robert Louis Stevenson.*